

DEMOCRATIC AND POPULAR REPUBLIC OF ALGERIA

MINISTRY OF UNIVERSITIES AND SCIENTIFIC RESEARCH

THE UNIVERSITY OF ANNABA

DEPARTMENT OF ENGLISH

جامعة بوبكر بلقايد \* تلمسان \*  
كلية الآداب و اللغات  
مكتبة اللغات الأجنبية

Inserit sous le N° 00231  
Date le 23/01/2012  
Cote .....

**INVESTIGATION INTO SOME MAJOR  
ENGLISH LEARNING PROBLEMS  
ENCOUNTERED BY D.E.S. CHEMISTRY  
STUDENTS AT THE UNIVERSITY OF  
ANNABA**

This Thesis is Submitted to the Institute of Foreign Languages in  
Candidacy for the Degree of  
MAGISTER IN LINGUISTICS

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اللغات  
المكتبة  
82/02/10  
تلمسان

جامعة تلمسان  
محافظة المكتبة  
لغات و الآداب

YEAR 1991 - 1992



## DEDICATION

To the memory of my parents-in-law

To my dear parents

To my beloved grand-mother, aunts Houria and

Nafissa

To all my family

To my husband Larbi and our two sons Adlène and Rédha

To my five nephews Sid-Ali, Riad, Amine, Azzedine and Yassine

To my friends

To Manou, my best friend

To my colleagues

## ACKNOWLEDGEMENTS

I am immensely grateful to my supervisor Prof. M. Miliani, for his inestimable guidance, patience, sacrifices throughout the development of this thesis and encouragements in difficult moments.

My thanks are extended to some colleagues from the departments of English, French and Arabic, for their moral help and advice, to my family for its patience and affectionate support, to my brother -in law Tofa and to I.S.A. (data processing service) for typing the present thesis.

Special thanks must go to the chemistry students and E.S.P. teachers who filled in the questionnaires and to some colleagues from the department of chemistry who kindly accepted to help me as regards the proposed model lesson.

Appreciation goes to all the members of the new library who were very helpful and kind with me especially Adnène.

Finally, my deep thanks go to my husband for his patience and pain when checking all the results of the two questionnaires and my two sons who missed so many times with me.

## ABSTRACT

This dissertation aims at investigating some major English learning problems encountered by D.E.S (Graduation) chemistry students at the university of Annaba and at suggesting some possible solutions.

An overall description of the Algerian linguistic and educational situation is undertaken in the first chapter.

The second chapter is devoted to the teaching of English (ESP versus general English courses) at the university of Annaba.

In the third chapter, two different questionnaires are designed to collect data concerning English learning problems.

It is then followed by the fourth chapter which identifies the problems regarding English learning.

Finally, the fifth chapter is an attempt to bring some solutions to the learning of the target language in the chemistry department which is affected by a set of negative factors. This chapter also endeavours to reconsider the educational system in analysing the negative factors in order to create the most favourable conditions for effective learning.

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## List of Abbreviations

- CA: Contrastive Analysis
- DES: (French abbreviation) Diplôme d'Etudes  
Approfondies = Degree of Higher Education
- EAP: English for Academic Purposes
- EFL: English as a Foreign Language
- ELT: English Language Teaching
- ENS: (French abbreviation) Ecole Nationale  
Supérieure
- EOP: English for Occupational Purposes
- ESL: English as a Second Language
- ESP: English for Specific Purposes
- EST: English for Science and Technology
- EVP: English for Vocational Purposes
- SP-LT: Special Purpose-Language Teaching
- TEFL : Teaching English as a Foreign Language
- TESL : Teaching English as a Second Language
- TL : Target Language (English)

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## GENERAL INTRODUCTION

As a developing country, Algeria needs many foreign languages and especially English to ensure its economic development and establish contact with countries all over the world. Thus, Algeria is using mainly English in the formal system of education and even outside to meet the above objectives. Moreover, foreign languages are a cultural opening and enrichment of the Algerian's personality. As far as the English language is concerned, it is taught from the middle school (the last cycle of the foundation school) to the university. Besides, English is a major subject in many institutions and a tool for work in national companies such as INELEC and INPED.

This dissertation deals with the problems of English learning at the tertiary level and more specifically in the D.E.S. chemistry department at the university of Annaba. In spite of the relatively long period of English learning (five years) before entering university, the results are not satisfactory. In fact, the students' level of proficiency in English is rather uneven.

As for ESP teaching, the lack of training on the part of teachers is a real problem. Teachers are faced with a subject they do not master at all. Therefore, they rather teach general English than ESP.



This survey also refers to the factors which account for the failure of English learning in the chemistry department. It is indeed important to know these factors and to take them into account for some remedial work. English is only taught in the final year (4th year) and one of the factors of failure is the inexistence of that language during three years, which creates a vacuum. The learners have the feeling to learn English for the first time. They can be considered as 'false beginners' because they learnt English before entering university. This creates a thorny problem for the organization of the course since many sessions are devoted to general revisions in order to refresh the learners' memory. It is in a sense a waste of time since general English does not meet the learners' needs.

Consequently, this work also endeavours to suggest some possible solutions to all the problems which impede the learning of ESP in the D.E.S. chemistry department.

# CHAPTER ONE

## The Linguistic and Educational Situation in Algeria

### 1.1 Introduction

### 1.2 Languages in Contact in the Colonial and Post-Colonial Periods

- 1.2.1 Classical Arabic
- 1.2.2 Algerian Arabic
- 1.2.3 Berber
- 1.2.4 French

### 1.3 The Educational System

- 1.3.1 The Colonial Educational System
- 1.3.2 The Educational System after Independence
- 1.3.3 The New School System
  - (i) The Polytechnic Foundation School
  - (ii) Secondary Education
  - (iii) Higher Education

### 1.4 The Status of Languages

- 1.4.1 In the Social Environment
- 1.4.2 In the School System

### 1.5 The Role of Foreign Languages in Algeria

- 1.5.1 The English Language
- 1.5.2 Other Languages

### 1.6 Conclusion



# CHAPTER ONE

## The Linguistic and Educational Situation in Algeria

### 1.1 Introduction

This chapter aims at describing the colonial and post-colonial linguistic and educational situation in Algeria. More than one century of French colonialism has generated a particular situation of bilingualism and diglossia, the writer will tackle later on in this chapter.

Indeed, linguistic problems seem to be inevitable because of the contact between languages on the one hand, and on the other hand, non linguistic variables such as the educational system and pedagogic factors which contribute to the generation of a complex situation. Nevertheless, the inclusion in the school system of foreign languages, i.e. German, Italian, Spanish, Russian and notably English has enabled Algeria to develop a multi-faceted approach to world culture.

### 1.2 Languages in Contact

#### 1.2.1 Classical Arabic

Classical Arabic also labelled literary Arabic had highly evolved in Algeria before French colonization which began in 1830. The Algerian culture and traditions were based upon Islam. The majority of the Algerian population was literate:

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"Almost all Arabs know how to read and write. In each village there are two schools".(1)  
(Guilbert, A. op. cit. in Lacheraf, M., 1976, p.73).

However, the French closed all the koranic schools except in some villages. Despite the ban of religious teaching and building of the named schools, the F.L.N. (National Front of Liberation : the leading Algerian party) kept on encouraging this teaching. People went to the neighbouring countries namely Tunisia and Morocco to pursue their studies.

Since the XIX<sup>th</sup> century, Arabic has evolved thanks to several political, social and economic conditions which led to its modernisation. Thus, it has been used in the mass media and administration, and has remained the language used in education. This language differs from Modern Arabic at the lexical level. As a matter of fact, the latter comprises new words expressing the realities of the modern world (mostly world of science).

With independence, Classical Arabic has become the national language. Yet, this language is less used by the population who was used to speaking either French or Algerian Arabic or both during colonization.

---

(1) The translation is mine (see original version in notes, p.41)

X

At that time, French was the prevailing language especially in education and administration:

"In Maghreb during colonization, the place of the written Arabic language was reduced for the benefit of French, the single official language".(1)  
(Grandguillaume, 1983, p.12)

Today, some politicians posit that to know classical Arabic is an urgent need in order to restore partly the Algerian identity. Thus, the objective of the Algerian state is to Arabize quickly since:

".....this language constituted an important link of the Algerian identity during colonization"(2).  
(Ouramdane, 1986, p.5)

### 1.2.2 Algerian Arabic

Algerian Arabic generally known also as dialectal Arabic is the spoken form of Arabic and the mother tongue of the majority of the Algerian population. In fact, one should rather speak of varieties of Algerian Arabic. Dialects vary from one region to another and differ from classical Arabic by 'a different grammar and vocabulary'. (Grandguillaume, 1983).

Dialectal varieties have borrowed words from different African or foreign languages. The northern Algerian Arabic has borrowed many words from Berber. e.g. [ argaz ] which stands for a courageous person.

The western Algerian Arabic contains many words from Spanish as follows:

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(1), (2)The translation is mine(see original version p.41)

Loan words * from Spanish	Phonetic Transcription	Equivalent in English
1 - rojo	[rɔʁɔ]	red-haired boy
2 - moro	[mɔrɔ]	Arab
3 - armario	[ærmærijo]	wardrobe

In the eastern Algerian Arabic and mainly in Annaba, a large number of words have been borrowed from the neighbouring Tunisia:

Loan words from Tunisian Arabic	Phonetic Transcription	Equivalent in English
1 - باهي	[behi]	nice
2 - برش	[bæɾʃæ]	many

As for the southern part of Algeria, the different dialects used are not always intelligible in other parts of Algeria because they are often lexically different from the above dialects :

Southern Algerian words	Phonetic Transcription	Equivalent in English
1 - شقال	[ʃæqa:læ]	a plate in metal
2 - طربوشنت	[tæɾbuʃænt]	a type of date

Loan words \* where both FORM and MEANING are borrowed or assimilated with some adaptation to the PHONOLOGICAL system of the new language. (Crystal, 1985, p.183).

X

However, French is the language from which almost all dialects have borrowed the most, notably in the north (Algiers). The borrowings started during the colonial period and have remained so. There are two ways of considering these borrowings. First of all, there is an 'adapted borrowing' (Hamers and Blanc, 1983) from French which occurs at the beginning of the Algerian word only. e.g. [direktu:r] which stands for 'director'. The french equivalent is 'directeur'. Since the vowel [ɔ:] does not exist in Arabic, it has shifted to the vowel [u:] for phonological convenience. This is no less the case of the further example: [militi:r] which stands for 'militaire' in French and 'military' in English. As the vowel [ɛ] does not exist in Arabic, it has also been changed into the vowel [i:] for the same reason.

Secondly, there is the case of French words which are wholly 'adapted' to Arabic, as follows:

Algerian Words	Phonetic Transcription	French Equivalent	English Equivalent
1 - شيفور	[ʃi fu:r]	chauffeur	driver
2 - سبيطار	[sbiʔa:r]	hôpital	hospital

One may notice that in both examples, initial and terminal changes occur.

In what follows, a set of mixed sentences will be supplied including French and Arabic words. One should keep in

X

mind that this case only happens to the 'ideal bilingual' (Weinreich, 1968) who has a perfect command of two languages. Moreover, the 'switch' from one language to another is termed 'code-switching' and occurs to suit certain situations.

French interferes with Algerian Arabic either at the beginning, in the middle or at the end of sentences as follows:

### 1- A French word at the beginning

e.g.  $\text{الـ} [\text{al}] \text{الـ} [\text{prof}] \text{جـ} [\text{a}]$

$\text{الـ} [\text{prof}]$  is a loan word from French 'prof'

$\text{الـ} [\text{al}]$  stands for the definite article 'the'. Nevertheless, it is worth mentioning that in Algerian Arabic, alternative sentences are possible as below:

$[\text{جـ} [\text{a}] \text{الـ} [\text{prof}]]$  or  $[\text{الـ} [\text{al}] \text{جـ} [\text{a}]]$

$[\text{الـ} [\text{al}] \text{جـ} [\text{a}]]$  or  $[\text{جـ} [\text{a}] \text{الـ} [\text{prof}]]$

However, in English and French, one sentence only is feasible.

e.g. Le prof est arrivé = The teacher has come.

Hence from the above examples, it seems that word-order is important in French and English contrary (to some extent) to Arabic.

2- A French word in the middle

e.g. ربحت الباك لعام لول  
[rbeht ʔi ba:k ʔi ʔa:m lewʔ ]

بَاك [ ba:k ] is a switch from French 'bac' which interferes in the middle of the sentence which stands for 'I passed the 'baccalaureate last year.' Again اَل [ ʔ ] stands for the definite article 'the'.

3- A French word in the terminal position

e.g. كلت القاطو [ kli:t ʔi ga:t ]  
قاطو [ ga:t ] is a loan word from

French 'gâteau' which interferes at the end of the sentence which stands for 'I ate the cake'.

اَل [ ʔ ] is always used for the definite article 'the!'

From the three cases with French, one may claim that the switch may occur at any position, i.e. initial, middle and terminal. There is reason to believe that:

"Even when there is a will of rupture as it is the case of our country with the cultural colonial legacy, a certain number of effects have remained so far..."(1)  
(Achour, 1985, p.42)

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(1) The translation is mine (see original version p.41)

X

Hence, Algerian Arabic has suffered from 'after effects' of colonialism since this dialect contains a host of loan words from French. For this reason, this dialect is 'depreciated' (Akeb, 1986) by the language purists. However, this dialect is, after all, indigenous to the Algerians. In short, it is 'deep-rooted'.

Nowadays, one witnesses the revival of classical Arabic which is viewed as the most beautiful language 'al-arabiya- al fusha (pure Arabic) as opposed to Algerian Arabic' al-arabiya- al dardja' (impure Arabic). Therefore, the contact between classical Arabic and Algerian Arabic, has generated a 'diglossic' situation in Algeria. According to Altoma, the problem of 'diglossia' can:

"....best be illustrated by outlining the varieties of Arabic existing side by side in the Arab world".  
(Altoma, 1969, p.3).

Likewise, Ferguson defines diglossia as:

"....the use of two varieties of a language in the same speech community".  
(Ferguson, in language in Education, 1972, p.38).

He further distinguishes both languages clearly, classical Arabic:

"...will be called the H (high) variety or simply H, and the regional dialects will be called L (low) varieties or.... simply L".  
(Ibid, p.39).



X

Such a label 'H' is given to classical Arabic thanks to its value. Moreover, this language is the cultural cement of the Arab world:

**"classical (or literary) Arabic...is used as a lingua franca of educated people throughout the Arabic speaking world". (Crystal, 1987,p.316).**

Contrary to 'H', the letter 'L' refers to the worthless regional Arabic. A deep study of 'bilingualism' will be dealt with later on in the part concerning French. (1.2.4). As can be noticed, classical and Algerian Arabic co-exist within the same society. This is no less the case of Berber which has been used by a minority of the Algerian population, i.e. 20% (Arezki, 1986).

### 1.2.3 Berber

As far as Berber is concerned, it appeared before French invasion and even before the Arab conquest. The origin of Berber is not well known. It has been reported that Algeria was first inhabited by the Berbers who spoke the libyan language:

**"There seemed to be a certain affiliation between the libyan and the Berber". (Julien, 1978, p.480).**

It is worth distinguishing a number of Berber dialects. The main group is constituted by the 'Kabyle' (from Kabylia), the 'Chaouia' (in Aures), the 'Muzabite' (in the Sahara), (see map on p.14). Berber existed before 'Arabization' and

X

therefore, has been regarded by the Arabs as an outdated language and maybe as a threat to national unity:

"The fact that Berber was the previous language to Arabization-Islamization of the Maghreb, leads the Arabs to consider it as a pre-islamic survival and therefore depreciate it...."(1)  
(Grandguillaume, 1983, p. 14)

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(1) The translation is mine (see original version p.41)



Fig. 1.1 Berber - Speaking Areas

Adapted from Gellner, E. and Micaud, C. (1972). Arabs and Berbers  
 London : Duckworth

X

Nethertheless, Berber has come again into use lately. The Berber speaking people have claimed the inclusion of Berber in the school system and the recognition of its place in the national culture. Unhappily, for some unknown political reasons, 'the Algerian state has avoided to deal with Berber'. (Chaker, 1978).

Despite the existence of an alphabet labelled 'tifinagh', Berber is only used for intimate matters within the family and in the cultural area, i.e. music, poetry and theatre. 'Tifinagh' derives from:

"Numidian, an ancient libyan script used in Roman times. The system consisted only of consonants, usually written right to left". (Crystal, 1987, p.316).

#### 1.2.4 French

Since the invasion of the French in Algeria in 1830, the French language had become the only official language until independence. The Arabs were compelled to accept the assimilation by the French culture and policy in spite of numerous but vain efforts of resistance.

Thus, French was spread in nearly all parts of Algeria except in villages and mountainous areas. The number of French learners among Moslems increased gradually at any level of education as shown in the table below.

YEARS	PRIMARY LEVEL	SECONDARY LEVEL(GENERAL TEACHING)	SECONDARY LEVEL(TECHNICAL TEACHING)	UNIVERSITY LEVEL
1901	24975	DATA NOT AVAILABLE	DATA NOT AVAILABLE	DATA NOT AVAILABLE
1911	40778	/	/	/
1921	42904	/	/	/
1931	67738	/	/	/
1945	108663	/	/	/
1954	306215	9810	5854	589
1956	272417	7552	4278	267
1957	345533	11632	6345	421
1959	609545	18709	11753	814
1960	714774	22745	15408	1317
1961	DATA NOT AVAILABLE	28244	18638	1372

**TABLE 1.1 : The Number of the French Learners at all Levels of Education**

Adapted from Perroux, F. (1962) L'Algérie de Demain.

X

X

One must say that access to university depended on the colonial policy and administration. French learning was viewed as:

"...the necessity to acquire a knowledge of the language however basic, at least, in some parts of their (the Arabs) daily life".  
(Murphy, 1977, p.3).

Thus, during the colonial era, French was the prevailing language. However, the place bequeathed to it is being reduced today in status and number. French has been replaced gradually by classical Arabic at nearly all educational levels.

Nevertheless, French domination which aimed at enforcing its political institution, culture and language to the Arabs, engendered a particular situation of 'bilingualism'. In fact, the bilingual Algerian speaking the mother tongue or French often mixes both (refer to the set of examples from pp. 8 to 10 ).

For the above reason, 'bilingualism' in Algeria is said to be particular because of historical considerations. Besides, one should acknowledge that French is necessary as any other foreign language in developed or developing countries, so as to keep abreast of development (technical and technological).

X

Before going any further, it is worth defining 'bilingualism' which is:

"...the practice of using alternatively two languages".  
(Weinreich, 1968, p.1)

Likewise, Hamers and Blanc define bilingualism as:

"A state of an individual or a community which refers to the simultaneous presence of two languages in the individual or the community".(1)  
(Hamers and Blanc, 1983, p.448)

At first sight, the definition of bilingualism seems to be generally shared. Yet, for other linguists such as Macnamara, these definitions are rather vague and limited to 'perfect bilinguals'. He, therefore, suggests that the bilingual person is:

"....someone who possesses a minimal competence in one of the four skills, i.e: understanding, speaking, reading and writing in a language other than her/his mother tongue".(2)  
( Macnamara op. cit. in Hamers and blanc, 1983, p. 22).

As can be seen, the above definition is quite different from the previous ones. Titone puts forward an intermediary definition:

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(1)(2) The translation is mine(see original version p.42)

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"... bilingualism consists of the ability of an individual to express oneself in a second language respecting the concepts and structures in accordance with this language, rather than paraphrasing her/ his mother tongue." (1)  
(Titone, 1972, p.11)

According to the researcher, bilingualism can be defined as the fact of using two languages in turn according to the person the speaker is talking to, the situation he/she is in and the mood he/she is in, as well.

Some linguists, namely Crystal (1987), Hamers and Blanc (1983) and Miliani (1986) distinguish two types of bilingualism, societal and individual, that Hamers and Blanc(1983) label as a 'diglossic bilingualism'. The attention is again turned to bilingualism in Algeria. Miliani claims that:

"The former type is the result of historical events, i.e. the occupation by the French since 1830, the latter is the consequence of several variables mainly the regional, economic and educational background of the individuals".  
(Miliani, 1986, p.127).

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(1) the translation is mine(see original version p.42).



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In fact, bilingualism in Algeria is first and foremost due to the French domination, next, to different factors mentioned above. The use of one language instead of the other depends upon many variables the researcher mentioned and is labelled 'code-switching' (Crystal, 1985).

To conclude, one can say that the diglossic situation and the process of code-switching are the products of bilingualism which is itself the product of French occupation. For this reason, it has been reported that the Algerian linguistic situation is complex owing to the double phenomenon of 'diglossia' and 'bilingualism'.

### 1.3. The Educational System

#### 1.3.1 The Colonial Educational System

At the time of colonialism, the French policy aimed at conquering Algeria by imposing its own political, economic, social and educational system and shedding the Algerian identity:

" France aims at assimilating totally the country (Algeria) to the institutions and interests (political and economic) of the metropolis..... and at destroying the traditional arabo-islamic structures (political, economic, social, cultural) "(1).  
(Taliadoros, 1985, p.37).

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(1) the translation is mine(see original version p.42).

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Hence, the French system of education represented a positive factor for assimilation:

" The French school has always constituted a means of unification of the national collectivity....."(1)  
(Perroux, 1962, p.26).

General Ducrot expressed briefly the objective of colonialism in Algeria, as follows:

"Let us hinder as much as possible the development of the Moslem schools, of zaouias.... In a word, let us tend to disarm the native population materially and psychologically..."(2)  
(General Ducrot, op.cit.in, Lacheraf, 1976, p.107).

It has been reported that the native population was initially reluctant to learn French but finally complied with the French policy-makers' wishes. Primary school enrolled children from six year old to eleven or twelve. That level lasted six years by the end of which, pupils sat for an examination labelled 'la 6ème' (the sixth). An extra year involved the pupils who sat for 'C.E.P.E' (Certificate of Primary Education). Those children could have access either to technical or agrarian education, or the second year of middle education after succeeding in 'la 5ème' (the fifth).

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(1), (2) The translation is mine(see original version p.42)

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As far as the secondary level was concerned, it used to last seven years by the end of which, a decisive examination termed 'the baccalauréate' was taken. That certificate enabled pupils to pursue higher studies.

As for the tertiary level, the university of Algiers was the only university in Algeria. In 1954, 589 out of 5172 students, were Moslems and by the end of the colonial era in 1961, 1372 out of 7309 students were Moslems (Perroux, 1962). As can be observed, within seven years, the number of Moslem students increased nearly threefold.

In parallel with French education, the Moslems sought to maintain Islamic teaching. The 'Movement of the Ulamas' (1930-1962) was an association of reformists founded in 1931 by Cheikh Abdelhamid Ben Badis, an Algerian thinker and militant. That movement aimed at challenging the French educational system, and reintroducing a basic teaching of Arabic and Islam.

Thus, the Algerian political nationalism was highlighted in 1936. The 'Ulamas' programme included traditional subjects as well as modern ones ,i.e. geography, history, literature, mathematics and other sciences (Taliadoros, 1985).

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However, the French educational system perceived the Ulamas Reformist Movement as a competitive force, not to say a threat and therefore implemented repressive measures against it. They went faster in the hope of making public schools more interesting. Moreover, mosque-schools were either closed or destroyed but a number of those schools remained notably in the rural areas. The teaching of Arabic was viewed as 'the assertion of the national identity of Algeria'. (Taliadoros, 1985). As a result and in spite of all the difficulties encountered, the reformist movement proved fruitful in reviving the Arab identity.

#### 1.3.2. The Educational System after Independence

At the time of independence, the Algerian educational system was similar to the French one. Algeria inherited a French school system with all its deficiencies and an insufficient teaching body. It was generally agreed that the educational situation was catastrophic. Thus, the Algerian government gave priority to education to overcome the educational problems and had recourse to foreign teaching staff at all levels so as to solve the problem of shortage and competence. On the other hand, the schools were restored. As for the programmes, they remained temporarily the same .

Education was regarded as a necessary social and cultural development of Algeria. As a result, the training of the Algerian teaching body was an urgent need, in addition to that, the contents of the programmes had to be reconsidered in order to adapt them to national needs. For this purpose, the

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Algerian educational authorities were determined to implement a new school system characterized by the following fundamental principles:

- Democratization of education
- Arabization of education
- Algerianization of the teaching body
- Development of scientific and technical education.

### 1.3.3. The New School System

It has been organized as follows:

- (i) The Polytechnic Foundation School (L'école Fondamentale et Polytechnique)

In 1980, the birth of the Algerian Polytechnic Foundation School was a revolution in the educational system. Its main concern was to solve the educational problems Algeria had suffered from after independence and combine academic and practical studies as stated in the following quotation:

"...the new Algerian school aims at diffusing a high technological and scientific culture, realizing the integration of intellectual and manual work, theory and practice".(1)  
(Ministère des Enseignements Primaire et Secondaire, 1974,p.17).

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(1) The translation is mine (see the original version p.43)

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Hence, the main objectives of that school are as follows:

1- To give the young a concrete and wide scientific and technical culture.

2- To introduce the young to the laws that govern the processes of the material production and the mechanisms which determine the social contacts.

3- To integrate the scientific knowledge to technological and scientific developments, from theory to practice, from thought to action.

4- To give general bases of vocational motivation through an education which takes the preliminary steps of life, related to the world of vocational activity.

5- To inculcate a high moral belief for the working world, manual and technical activity.

The above set of objectives was taken from: Ministère des Enseignements Primaire et Secondaire, 1974, p.19.

The table below will show the structure of the Algerian

Polytechnic Foundation School.

STRUCTURE OF POLYTECHNIC FOUNDATION SCHOOL		
AGE	CYCLE	PSYCHO-BIOLOGIC CHARACTERISTICS
6 to 9 years	Basic Cycle or 1 <sup>st</sup> level	- Development of psycho-motricity - Pratical and intuitive intelligence - curiosity - Socialization
9 to 12 or 13 years	awakening cycle or 2 <sup>nd</sup> level	- Pre-puberty period - Abstract thought - reversibility of thought - Moral sense - Team spirit
12/13 to 15/16 years	Terminal orienta-tion cycle or 3 <sup>rd</sup> level	- Puberty period - capacity for reasoning - Desire to take action in the world, to concretize the acquired knowledge - Vocational motivation.

**Table 1.2: Structure of Polytechnic Foundation School**

**Source:** Ministère des Enseignements Primaire et Secondaire, 1974, p.21

From the above table, one can note that the Polytechnic Foundation School includes the primary and middle levels of education.

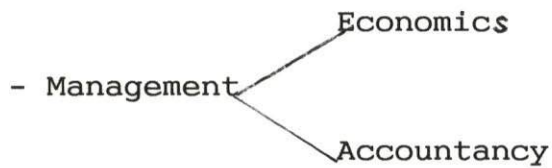
(ii) Secondary Education : Nowadays, secondary education lasts three years and comprises a series of streams, as follows:

- Stream A: Arts including Arabic literature and other languages.

- Stream M: Mathematics

- Stream S: Sciences

- Islamic Sciences



The subject language for all the streams is Arabic. The first foreign language (i.e. French) and a second one, either German, Russian, Spanish or mainly English are also included in the national educational curricula. Besides, there is another type of secondary education termed the 'Secondary Technical Education' which also leads to the 'Baccalauréate' which gives access to university. This type of education comprises a series of streams, as follows:

- Technical Mathematics

- Industrial Technique

- Biochemistry

- Computer Science

- Agriculture



(iii) Higher Education

Today, any Algerian may enter university with the 'Baccalaureate'. It is worth noting that the number of students have increased regularly so far. The table below will show the evolution.

Evolution of the Number of Students

Institute	1979 - 80		1984-85	1986-87	1987- 89	
	Number	%	%	%	Number	%
- Exact Sciences	8638	15,0	6,8	6,8	11152	6,9
- Technology (including Applied - Sciences)	7924	13,8	26,1	34,2	58948	36,5
- Medical and veterinary sciences	13738	23,9	29,6	23,7	32995	20,4
- Natural Sciences/ Earth Sciences	4771	8,3	8,7	8,4	13546	8,4
- Social and Human Sciences	22374	39,0	26,8	26,9	44823	27,8
TOTAL	57.445	100	100	100	161.464	100

Table 1.3: Evolution of the Number of Students in Graduation.

Source: Annuaire Statistique (1987-88), N° 17, p.3. Ministère de L'Enseignement Supérieur.

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As can be seen, technology has the lion's share at the tertiary level. Social sciences and humanities come after. Medical sciences and veterinary medicine are placed in the third position. As for exact sciences and natural sciences, they are nearly of equal importance. As a result, one may deduce that technology is a field of major interest for developing countries like Algeria.

The attention is again turned to university which previously comprised faculties. With the '1971 Reform', faculties became institutes owing to the high number of students and specialization of studies. Each institute comprises numerous departments. The university degrees are termed the 'Licence' (Bachelor's degree) or the 'D.E.S' (Higher Education Degree), 'D.E.U.A' (Applied University Degree) and 'Ingeniorat' (Engineering). It should be mentioned that the university is under the aegis of the Ministry of Universities and Scientific Research. On the other hand, post-graduation and scientific research are seen as a factor of development in Algeria.

The table hereafter will show the evolution of post-graduate students.

INSTITUTES	1979-80	83-84	84-85	85-86	86-87	87-88
Exact Sciences	255	614	723	804	812	931
Technology	193	547	750	808	1150	1343
Medical Sciences	1816	3412	4239	4148	4250	4417
Biology	105	228	289	304	427	505
Natural Sciences	58	131	189	152	197	181
Economic Sciences	259	351	347	658	825	747
Law	409	748	796	1519	1837	2001
Politic Sciences	170	242	261	338	348	367
Social Sciences	484	453	484	652	818	934
Arts	216	559	626	590	743	862
TOTAL	3965	7285	8697	9973	11407	12288

**Table 1.4: Evolution of the Number of Students in Post-Graduation**

Source: Annuaire Statistique, 1987-88, N° 17.p.8 Ministère de l'Enseignement Supérieur

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Surprisingly enough, from the above table, it may be observed that medical sciences have the most prominent number of students (4417 in 1987-88). Law comes in the second position whereas technology is in the third place (1343 in 1987-88). This may be due to the fact that most students in technology are sent abroad to further their studies whilst the majority of students in medical sciences and law pursue them in Algeria.

Before going any further, one should recall that the above table involves the first post-graduation only, i.e. Magister level (Master degree) and Résidanat en sciences médicales (Residency in medical sciences). As for scientific research, it is designed for:

- " -The development of human base
  - The permanent reinforcement of scientific and technological acquired capital.
  - The generalization of scientific and technical culture by the reinforcement of the teaching of scientific subjects at all levels of the educational system".(1)
- (Guide Economique et Social, 1987, p. 268)

Scientific research has been reorganized in 1983 thanks to the birth of research centers on the one hand, and units of scientific and technical research on the other. There are several research units and two research centers as follows :

- The 'CREAD' (Centre of Research in Applied Economy for the Development)
- The 'CRAAG' (Centre of Research in Astrophysics, Astronomy and Geophysics) including 63 units of research dealing with all the fields. (Guide Economique et Social, 1987, p. 268).

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(1) The translation is mine (see the original version p.43)

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As a result, one can say that education is developing at all levels and notably at the university one.

#### 1.4 The Status of Languages

##### 1.4.1 In the Social Environment

With regard to classical Arabic, it is now officially viewed as a national language and reinforced by a policy of total 'Arabization'. This policy undertaken by the Algerian state is not only applied in the school system but also in the social environment:

- Arabization of the environment, i.e. names of streets, shops, newspapers and so forth.
- Arabization in national enterprises and companies, in civil services and administration since 1968.

The main concern of Arabization is to reduce the use of French and revive classical Arabic existing before French colonization. Thus, Arabization is set up in all sectors, i.e. social, economic, educational and political. One potential problem is that nearly all the Algerians go on using spontaneously Algerian Arabic or Berber to express daily subjects and activities. Despite the strong effort to achieve total Arabization, the dialectal varieties still remain in everyday life. Besides, French enjoys a strong position since it is applied both in the social environment and school system.

#### 1.4.2 In the School System

The attention is again turned to classical Arabic which is attributed a high status so as to reinforce the Algerian personality. Thus, the main objective of the government was to Arabize as soon as possible the educational system in order to develop an authentic national education. For this purpose, in June 19th, 1965, Arabization was officially established at all levels of education. Nevertheless, at the primary level, the third and fourth years were totally Arabized. One third of the fifth and sixth years was Arabized whereas the remainder was bilingual. At the secondary level, the same process was applied and was labelled 'gradual Arabization' (Taleb Ibrahim, 1976).

In higher education, the first Arabized institution was founded in the school of Journalism in Algiers. In addition, a 'module' of classical Arabic was introduced in all streams. In 1973, other Arabized sections were created. Yet, the year 1968 witnessed a contradiction between the principle of Arabization on the one hand and its practice on the other:

"....in the Ministry of National Education in which one militates in favour of educational Arabization but where administration runs in French."(1)  
(L'Annuaire de l'Afrique du Nord, 1976, p. 366)

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(1) The translation is mine (see the original version p.43)

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In sum, in spite of a 'quantitative Arabization', the 'qualitative' results have not been satisfactory in all areas as can be observed. This is due to the double phenomenon of 'diglossia' and 'bilingualism' previously dealt with. Hence, to provide a straightforward solution to the achievement of total Arabization is not a simple task. One possibility has been to recommend that:

"...Arabization should bridge the gap which separates the spoken language (Algerian Arabic) from the written one (classical Arabic)." (1)  
(Taleb Ibrahimi, 1976, p.19)

Algerian Arabic as well as Berber are not used in the school system since they are considered as spoken languages in daily life. As for French, one should acknowledge that it still enjoys considerable importance especially in science and technology. In spite of its importance, its place is more and more reduced in status and is given a 'foreign' language label, as the late President Boumedienne posited:

"The French language in Algeria is a foreign language and it will remain so, as it was during colonialism.... it will then be used as a foreign language occupying a specific situation with regard to well known historical considerations". (2)  
(in Balta, 1975, pp.35.39)

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(1) The translation is mine (see the original version p.43).  
(2) The translation is Miliani's (1985)

As can be seen from the above table, the percentage of males is high compared with that of females. Moreover, the number of students in the Arabophone section is slightly higher than the Francophone one.

**Questions 2 and 3 : Students' Age and Year of Study**

The students' age varies from 20 to 24. All of them belong to the fourth year (the final year).

**Question 4 : Medium of Instruction**

French and Arabic are the media of instruction in the respective sections. In addition, one must mention that it is the first batch of Arabophone students in the chemistry department so far. This shows that there is an attempt to introduce and establish Arabic as the only medium in the chemistry curriculum.

**Question 5 : Pre-University Learning of English** As far as pre-university learning of English is concerned, all the students who constitute the sample, studied English before entering university.



### Question 6 : Number of Years of English Study

The data gave the following results:

NUMBER OF YEAR	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
2 years	11,36 %	5	2	3
4 years	9,09 %	4	2	2
6 years	79,55 %	35	20	15
Total Number	100 %	44	24	20

Table 3.2 :Number of Years of English Study

As can be noticed, the number of years of English study varies from 2 to 6 years. However, the majority of students have practised English for 6 years.

### Question 7: Number of Years without Practice of English

The whole Francophone section gave the same answer, that is, 3 years whilst in the Arabophone one, one student only did not answer because she studied English in the Intensive language Teaching Centre at the University of Annaba. (Centre d'Enseignement Intensif de Langues, C.E.I.L )

### Question 8 : Objectives for English Study

The students belonging to both sections gave various answers, as follows :

OBJECT- -IVE	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Item A *	15,90 %	7	3	4
Item B *	6,81 %	3	1	2
Item C *	25 %	11	6	5
Item D *	6,81 %	3	2	1
Items A and B	13,63 %	6	1	5
Items B and C	2,27 %	1	1	
Items C and D	9,09 %	4	4	
Items A and C	11,40 %	5	5	
Items A and D	9,09 %	4	1	3
Total Number	100 %	44	24	20

**Table 3.3: Objectives for English Study**

As can be seen from the above table, the objectives for English study are manifold in both sections. The ratio of students who answered that the objective for English study is 'to read chemistry in English ' (25%), is the most important. The first item also occupies a large ratio (15,90%). Items A and B come after (13,63 %).

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Item A\*: because English is an international language

Item B\*: because I plan to go abroad

Item C\*: to read chemistry in English

Item D\*: for future post-graduate studies

It is not surprising to know that many students are aware of the prominence of English in the world and plan to go abroad. Next, Items A and C are well positioned (11,40 %). Again items A and C are present in the students' choices. It is amazing to notice that the combination of items C and D, then A and D occupy the same place (9,09 %). This shows that all of them are of equal importance. B and D share the same ratio (6,81 %). The items which have the least importance (2,27 %) are B and C altogether. The above question is important for the definition of the students' objectives, with an idea of the learners' aims and purposes in English language.

**QUESTION 9: Students' Self - Assessment**

This question dealt with the students' level of proficiency in English.

LEVEL	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Advanced	No answer	No answer	No answer	No answer
Intermediate	52,27 %	23	11	12
Beginner	47,73 %	21	13	8
Total Number	100 %	44	24	20

**Table 3.4: The Students Self-Assessment**

According to the above table, the majority of students considered themselves as being 'intermediate'. Unhappily, the investigator who happened to be their language

teacher, is not of the same opinion. Indeed, she believes that their level in English is rather poor and their consideration as 'being intermediate ' is perhaps based upon the fact that the majority have studied English for six years.

**Question 10: Size of classes**

The size of classes varied from 20 to 30 for both sections.

**Question 11: Students' Opinion about English Course**

	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
very im- portant	29,27 %	12	7	5
impor- -tant	65,90 %	29	17	12
Not im- portant	6,81 %	3		3
Total Number	100 %	44	24	20

**Table 3.5: The Student's Opinion about English Course**

Many students thought that English is important (65,90%). Only 3 students (6,81 %) answered that it is not.

**Question 12: Students' Opinion concerning English Instruction only in the Fourth year.**

This question was answered negatively by most students. This means that English Instruction in the fourth year only does not suffice.

**Question 13: Student's Opinion with regard to English Instruction from the First year**

The majority of students answered positively. This leads to think that English instruction from the first year is strongly required.

**Question 14: English Instruction as a Continuous Process**

Once more, most students answered positively, which means that students value their learning of English which is seen as an on-going process.

**Question 15: Student's Understanding with Respect to Teacher's Lectures.**

Over half the group of respondents answered positively. From this, one can state that their language teacher has attempted to render the course understandable and adapted it to her students' level.

**Questions 16 and 17 : Students' Reading Ability and Frequency**

As far as students' reading ability is concerned, it seemed that the majority were able to read. Moreover, students were asked to specify the type of reading materials used. The majority mentioned scientific dictionaries and books. Contrary to this, frequency of reading is rather low.

**Question 18: Frequency of Speaking**

FREQUENCY	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
daily	No an- -swer	No an- -swer	No answer	No answer
sometimes	45,45 %	20	10	10
never	54,55 %	24	14	10
Total Number	100 %	44	24	20

**Table 3.6: Frequency of Speaking**

As can be noticed from the above table, the ratio of students who never speak English is slightly high compared with those who speak it sometimes. One may deduce that the students who have no opportunity to practise English outside the English sessions, are weak or are not motivated.

**Question 19: Frequency of Listening.**

FREQUENCY	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
daily	No an- -swer	No an- -swer	No answer	No answer
sometimes	68,18 %	30	10	12
never	31,82 %	14	6	8
Total Number	100 %	44	24	20

**Table 3.7: Frequency of Listening**

Contrary to the frequency of speaking, the ratio of students who listen to English is rather high compared with those who never listen to it. This shows that they are interested in English even outside the English sessions.

**Question 20 : Frequency of Writing.**

FREQUEN- -CY	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
daily				
someti- -mes	45,45 %	20	8	12
never	54,55 %	24	16	8
Total Number	100 %	44	24	20

**Table 3.7: Frequency of Writing**

According to the above results, the ratio of the students who never write in English (54,54%) is slightly high compared with those who write it sometimes (45,45%). It is amazing that the ratio of writing is on a par with that of speaking. This reveals that the students give the same importance to both skills.

**Question 21: Selection of Skills.**

The students were required to grade the four primary skills in order of importance. Their answers gave the following ratios.

ORDER	1 st						2 nd						3 rd						4 th					
	R.F %	AF	Arabo- phone sec- -tion	Franco- phone sec- -tion	R.F %	AF	Ar. sec.	Fran.	R.F %	AF	Ar. sec.	Fran.	R.F %	AF	Ar. sec.	Fran.	R.F %	AF	Ar. sec.	Fran. sec.				
READING	68,18	30	15	15	18,18	8	5	3	13,63	6	4	2												
SPEAKING	31,81	14	7	7	34,09	15	7	8	13,63	6	3	3	20,45	9	7	2								
WRITING	18,18	8	3	5	20,45	9	4	5	40,90	18	10	8	20,45	9	7	2								
LISTENING	20,45	9	3	6	9,09	4	4		40,90	18	10	8	29,54	13	7	6								

Table 3.9 : Selection of Skills



As can be seen, most students (30) put 1st for the reading skill. The ratios for 2nd and 3rd concerning this skill, are negligible respectively 18,18 % and 13,63 %. At the first glance, reading was considered as the priority skill by the students.

As far as the speaking skill is concerned, the prominent ratio (34,09 %) was given to 2nd which shows that students regard speaking as the second most important skill.

As for the writing skill, the most important ratio was placed in the third position (40,90 %) which means that writing is not viewed as an urgent need to cater for. Similar to the latter skill, the prime ratio (40,90%) was placed in the third position in listening. It is interesting to note the same important ratio for both skills in the same rank.

Consequently, from this table, one may deduce that 'reading' was judged by students as being the priority skill (68,18%), 'speaking' came second (31,81%), 'listening' came third (20,45%) and 'writing' came last (18,18%).

Furthermore, this table reveals that the focus should be on the reading skill. Next, as the speaking skill occupies an important position as well, one may think that most students aim at developing their 'communicative competence'. As for the listening and writing skills, they are considered as the least urgent.

**Question 22: Students' Difficulties in English at the Secondary Level.**

AREAS	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Grammar	15,90 %	7	3	4
Vocabulary	6,85 %	3	1	2
Pronunciation	13,63 %	6	3	3
Items A-B-C *	47,72 %	21	12	9
Items A-B *	6,81	3	3	
Items B-C *	9,09 %	4	2	2
Total Number	100 %	44	24	20

**Table 3.10: Students' Difficulties at the Secondary Level**

From the above table, one may conclude that 21 students encountered difficulties in all areas, i.e. grammar, vocabulary and pronunciation.

In grammar, the ratio was slightly high (15,90%) compared with pronunciation (13,63 %). However, it is surprising to note that the ratio for vocabulary is negligible (6,85 %). It may be due to the fact that this area is something the students are likely to know in French.

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(Items A-B-C \*: grammar, vocabulary and pronunciation)

(Items A-B \*: grammar and vocabulary)

(Items B-C \*: vocabulary and pronunciation)

Therefore, the fact that students encountered difficulties everywhere reveals that they needed remedial work before starting a specific English course at university level.

**Question 23: Students' Difficulties at the University Level**

AREAS	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Grammar	11,36 %	5	2	3
Vocabulary	4,54 %	2	1	1
Pronunciation	9,09 %	4	2	2
Items A-B-C *	56,81 %	25	15	10
Items A-B *	11,36 %	5	3	2
Items A-C *	2,30 %	1	1	
Items B-C *	4,54 %	2	/	2
Total Number	100 %	44	24	20

**Table 3.11: Students' Difficulties at the University Level**

As in the previous table, the majority of students (25) have encountered difficulties in all areas notably in grammar.

(Items A-B-C \*: grammar, vocabulary and pronunciation)

(Items A-B \*: grammar and vocabulary)

(Items A-C \*: grammar and pronunciation)

(Items B-C \*: vocabulary and pronunciation)

Consequently, from the results of both tables related to students' difficulties, the investigator can claim that remedial work is of some import for these students.

**Question 24: Causes of English Learning Problems**

AREAS	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Items A*	20,45 %	9	6	3
Items B*	4,54 %	2	1	
Items C*	9,09 %	4	3	1
Items A-B-C *	38,63 %	17	9	8
Items A-B *	20,45 %	9	5	4
Items A-C *	2,30 %	1		1
Items B-C *	4,54 %	2		2
Total Number	100 %	44	24	20

**Table 3.12: Causes of English Learning Problems**

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(Item A \*: the lack of appropriate syllabus)  
 (Item B \*: the lack of adequate materials)  
 (Item C \*: the inexperience of the teacher)

From the above results, one may deduce that the causes of English learning problems are manifold. The three items altogether have the highest ratio (38,63%). On the other hand item C has not an important ratio (9,09 %). This means that the language teacher has tried to do her best to render the course efficient. Item B alone is equal to items B and C altogether (4,54 %). Thus, since students judged that there was a set of causes, one has to take them into account to better the conditions of learning.

Question 25: Evaluation of English Course

EVALUATION	R.F.	A.F.	ARABOPHONE SECTION	FRANCOPHONE SECTION
Interesting	25 %	11	6	5
Not bad	61,37 %	27	15	12
boring	13,63 %	6	3	3
Total Number	100 %	44	24	20

Table 3.13: Evaluation of the English Course

As far as the assessment of the English course is concerned, the students' judgement is favourable since the ratio is high (61,36%). However, the English course is boring for 13,63 %, which is rather substantial.

**Questions 26 and 27: Linguistic Impediments in  
English learning**

When asked whether or not French affects English learning, 15 students in the Francophone section and 16 in the Arabophone one answered negatively. This shows that the knowledge of French does not impede the learning of the target language.

Similar to French, the answers given by the students show that again 15 students in the Francophone section and 10 in the Arabophone one, were not affected by Arabic when learning English. Nevertheless, the results are in contradiction with reality. According to their language teacher, there are a number of impediments in all areas, i.e. phonological, lexical, grammatical and graphic.

Moreover, 14 students in the Arabophone section answered positively. This leads to think that the majority of students encounter learning problems due to Arabic.

**Question 28: Amount of Hours of English Course**

Most students, 14 in the Francophone section and 16 in the Arabophone one answered negatively. This shows the need for extra hours. Moreover, when asked to suggest the amount of teaching hours per week, the majority of students answered 3.

**Question 29: Students' Suggestions Related to  
the Number of Year for English Course**

The majority of students suggested a three-year English course. One may think that they are aware of the insufficiency

of the number of years and feel the vital need of English learning in parallel with the main subject. Therefore, English learning should be a continuous process. In other words, a non-stop exposure is desirable.

**Question 30: Students' Suggestions concerning  
the Syllabus, Materials and Method**

This question invited students to offer suggestions concerning the syllabus, materials and method in order to better the English learning conditions. Indeed, some interesting ideas were put forward, which can be worded as follows:

- introduce a syllabus that is relevant to the field of study.
- begin with general English and then with specific English.
- reinforce basic English
- have 3 years of general English and one year of specific English.
- use language laboratories in order to practise English.
- produce materials to facilitate English learning.
- provide audio-visual aids for an efficient English learning
- take into account students' level
- place the focus on vocabulary
- emphasise the reading skill
- have an intensive method of English learning.
- have a textbook with basic English and specific English

including lexical items mainly.

**Question 31: Language and Subject Teachers'**  
**Collaboration**

The majority of students answered positively. Hence, one can advocate that a close link between the specialist and the language teacher be. In other words, this collaboration may train the latter in the specific field of study and improve English teaching.

**3.4 THE TEACHERS' QUESTIONNAIRE**

**3.4.1 Methodology**

Concurrently, the writer designed a questionnaire for teachers (see Appendix D) in order to collect data in the same line of study and have viewpoints from some informants. This questionnaire comprised the four types of questions, i.e. open, closed, mixed and graded. Contrary to the students' questionnaire, the questions were only written in English.

Owing to the insignificant number of ESP teachers (1) in the chemistry department, the investigator was compelled to have recourse to one language teacher who taught in the same department a long time ago and other ESP teachers from other institutes namely in physics (4) and economic sciences (3).

The designed questionnaire contained six headings, as follows:

-The teachers' background



- The organization of the English course
- The students' linguistic competence
- The English syllabus and materials
- Linguistic and non-linguistic problems
- The teachers' opinions and suggestions concerning the learning and teaching of English.

On the whole, the questionnaire included twenty nine questions:

- Questions 1 to 5 :Sought general information such as the teacher's sex and qualifications and the teacher's professional background at the secondary and university levels.
- Questions 6 to 10:Asked about the organization of the English course.
- Questions 11 to 14: Aimed at assessing the students' performance and competence in English and identify was designed to know the students' attitudes towards the learning of the target language. Moreover those questions were designed to time the English course allocated to each skill in a two-hour session.



- Questions 15 to 19:Were specific .In fact, they aimed at identifying the objective(s) which best meet(s) the learning of English. For this purpose, the researcher suggested a series of objectives among which the informant was required to select one or more considering the fact that the identification and classification of objectives are inherent to the development of a definite syllabus and materials production.

- Questions 20 to 22:Dealt with linguistic and non linguistic impediments related to the learning and teaching of English.

- Questions 23 to 29:Were intended to know the teacher's suggestions first, about the collaboration between ESP teacher and subject teachers, next, about the number of years of English instruction and last the amount of hours of English per week.

Finally, those questions Invited informants to put forward some solutions to the existing problems.

### 3.4.2 Data analysis

The data obtained from the questionnaire were quantified and analysed as well. For this purpose a number of tables displayed, different results with respect to the ESP teachers' viewpoints and judgements.

#### Questions 1 and 2: ESP Teachers' Sex and Qualifications

On the whole, in economic sciences, physics and chemistry institutes, there were only 3 women and 5 men who taught ESP.

QUALIFICATION	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
Licence	50 %	4	2	1	1
Magister			none	none	none
Other	50 %	4	1	3	
Total Number	100 %	8	3	4	1

Table 3.14: Teachers' Qualifications

From the above table, one may note that the number of Licence holders is on a par with that of teachers with 'Other' qualifications (e.g. PhD as specified by four informants). Among the teaching staff, there are ESP teachers with 'Licence' degrees and others with 'PhD'. Moreover, the latter belong to the institutes of economic sciences and physics as it appears in the above table. These teachers happen to be subject

teachers at the same time. One may think that it is the ideal situation for the learners as well as for the teachers.

**Question 3: English Language Teaching (ELT) Experience**

The amount of ELT experience varies from 0 to 9 years at the secondary and tertiary levels.

In the institute of physics, teachers have never taught ELT neither at the secondary level nor at the tertiary one whereas one teacher only taught ELT at the secondary level.

As far as the institute of economic sciences is concerned, 3 teachers have taught ELT at the tertiary level only (one teacher for 8 years, two others for 9 years).

As for the institute of chemistry, the unique teacher has been teaching at the secondary level for 3 years and 6 at the tertiary one. One may think that ELT experience is inexistent for 3 teachers only, while the majority have a wide experience.

**Question 4: ESP Teaching Experience**

The results ranged from 1 to 5 years for the total number of informants. Only two teachers have taught ESP for one year. As for the rest, the answers varied from 3 to 5 years.

**Question 5: Previous Training in ESP**

ANSWER	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
YES	37,5%	3		3	
NO	62,5%	5	3	1	1
Total Number	100 %	8	3	4	1

**Table 3.16: Previous Training in ESP**

As can be seen from the above table, the majority of teachers (5) did not have any ESP training before teaching. However, the 3 positive answers came from 3 PHD teachers in the institute of physics. Hence, the ratio of negative results (62,50%) is nearly the double of positive ones (37,50%). One can deduce from this that the negative answers may be one of the negative teaching factors, i.e. the lack of ESP training. Indeed, the latter is regarded as an impediment to the achievement of the defined ESP objective(s). This can be more explicit by the fact that most ESP teachers who have not followed any ESP training so far, show fear and malaise when asked to teach ESP.

**Question 6: Academic Years of ESP Course**

Surprisingly enough, the ESP course is introduced in the first and second years in the institute of economic sciences, whereas it only appears in the final year in the institutes of physics and chemistry.

**Question 7: The Amount of Hours for ESP Course**

Teachers unanimously indicated the same amount of hours per week of ESP course, i.e. a two-hour session.

**Question 8: Obligatory Attendance at ESP Course**

Like the previous question, the results were unanimously positive. One may wonder whether or not the ESP course is considered as a constraint by students.

**Question 9: The Size of Classes**

NUMBER OF STUDENTS	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
10	37,5%	3		3	
BETWEEN 10 AND 20	25 %	2	1		1
BETWEEN 20 AND 30	37,5%	3	2	1	
MORE					
Total Number	100 %	8	3	4	1

**Table 3.17: The Size of Classes**

The above table shows that the number of students ranged from 10 to 30. There is reason to believe that the classes are not overcrowded.

### Question 10: Final Examination in English

The answers were unanimously positive. This means that English is officially viewed as the other subjects included in the three different institutes. Furthermore, since all the students from the above-mentioned institutes, sit for a final examination, their attitudes towards English should be positive and motivation high or at least average. Table 3.19 will illustrate this position.

### Question 11: Student' Level of Proficiency

LEVEL	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
BEGINNER	12,5%	1	1		
INTERMEDIATE	87,5%	7	2	4	1
ADVANCED			none	none	none
Total Number	100 %	8	3	4	1

Table 3.18: Students' Level of Proficiency

From the above table, one may note that except for one language teacher in the institute of economic sciences, the ratio concerning 'intermediate' level is very high (87,50%). This shows that the majority of students had a previous knowledge of English before entering university.

**Question 12: Students' Motivation**

MOTIVATION	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
HIGH	50 %	4	1	3	
FAIR	50 %	4	2	1	1
LOW					
Total Number	100 %	8	3	4	1

**Table 3.19: Students' Motivation**

The above table shows that the ratio connected with 'high' motivation (50%) is on a par with 'fair'. It is encouraging to notice that there was no answer related to 'low'. This means that students are aware of the prominent place English occupies in the scientific and technological fields.

**Question 13: Students' Weaknesses**

AREAS OF WEAKNESSES	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
LISTENING	50 %	4	2	2	
SPEAKING	62,5%	5	1	3	1
READING			No answer	No answer	No answer
WRITING	25 %	2	1	1	

**Table 3.20: Students' Weaknesses**

At first, the total number could not be calculated because there was no unique choice. As can be seen, the highest ratio was given to the second item 'Speaking' (62,50%). '



Listening' came second (50%) and 'Writing' last. It is amazing to note that the ratio for 'Reading' is non-existent. Hence, from these results, one may deduce that the students are rather weak in listening and speaking. It goes without saying that both skills are inter-related since they allow teacher to develop the students' communication competence. For this purpose, ESP teachers should devote a lot of time to remedial work.

However, according to the ratio with respect to 'Writing' scant attention should be paid to this skill. Finally, 'reading' which does not seem to be one of the learners' weaknesses, has however to be taken into account since it is their main objective.

#### Question 14 : Time Allocated to Each Skill in a two-hour Session

This question was an open-ended question since informants were given the freedom to indicate the time devoted to each skill. The results could not be stated in a table because of the variety of answers.

In economic sciences, the answers with regard to 'Listening' varied from 30 to 45 minutes while 5 to 30 minutes were devoted to 'speaking'. With respect to 'reading', the results ranged from 5 to 40 minutes : As for 'writing', it was devoted 20 to 30 minutes.

In physics, 'listening' was allocated 25 to 40 minutes. 'speaking' was given 30 to 40 minutes. With regard to

'reading', the answers varied from 20 to 30 minutes. As for 'writing', 15 to 30 minutes were devoted to this skill.

Finally, in chemistry the teacher devoted 30 minutes to 'listening', 20 to 'speaking', 40 to 'reading' and 30 to 'writing'. Hence, from the data reported, it appears that 'listening' and 'reading' are given much more time than the other two skills. 'Speaking' comes third and 'writing' last. No wonder that the latter skill is considered as the least important.

**Question 15 : Objectives of the English Course**

OBJECTIVES	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
To study English as a part of the curriculum	25 %	2	1	1	
To read and understand specialized documentation through English	37,5%	3	2		1
To speak English	12,5%	1		1	
Other			No answer	No answer	No answer
Items b and c *	12,5%	1		1	
Items a,b and c *	12,5%	1		1	
TOTAL NUMBER	100 %	8	3	4	1

**Table 3.21 : Objectives of the English Course**

item a \*: to study English as a part of the curriculum

item b \*: to read and understand specialized documentation

item c \*: To speak English

As can be seen from the above table, the second objective has the highest ratio (37,50%); the first objective comes next (25%). As for the third objective, the combination of second and third objectives, and the combination of first, second and third objectives, they all share the same ratio (12,50%).

It is not surprising that 'to read and understand specialized documentation through English' is the prime objective. With regard to 'to study English as a part of the curriculum', it is not surprising to see it in the second place since it is, after all, included in the curriculum.

According to some teachers, items b and c, items a, b and c were treated equally. However, it seems that items a and b should be given priority. Indeed, on the one hand, item a is included in the curriculum, and on the other item b is the main objective.

The aim of the above question was to identify and classify objectives for the design of a sample lesson-plan included in the fifth (final) chapter of the present dissertation. In fact, as Bloom claims:

"...the taxonomy helps them (curriculum builders) to specify objectives so that it becomes easier to plan learning experiences..."  
(Bloom, 1979, p. 2)

Likewise, the researcher thinks that a 'taxonomy' of objectives is an inherent activity, a guide which enables any syllabus developer to meet learning objectives. With this

thought in mind, the writer will attempt to put forward a suitable sample lesson-plan.

**Question 16: Existence of an English Syllabus**

The results were unanimously negative. One way deduce that the non-existence of a syllabus is a negative factor for the teaching/learning of the target language.

**Question 17: Adequacy of the English Syllabus**

There was no answer to this question since the previous one was negative.

**Question 18: Existence of Materials**

Similar to the previous question 16, all the answers were negative. It seems that the inexistence of materials is an additional negative factor.

**Question 19: Teachers' Own Materials**

Since the results were unanimously negative in the previous question, all teachers answered positively the present one. This means that they were compelled to use their own materials even if that meant to use inadequate ones. Those teachers gave specifications, as follows:

- The choice of topics, texts, etc...., is exclusively mine. This situation explains why the content and emphasis of English lectures are so widely different among English lecturers.

- I have to devise exercises, questions to select my own texts. Sometimes, I have to adapt texts in order to give them to beginners.

- I select the suitable texts and teach the skills according to the students' needs. Therefore, I design exercises that develop the required needs.

- I make copies of what is already existing.

- I often do not manage to get published materials. The latter are not always adequate to the teaching/learning situation, students' level and the field of study.

- Materials are often chosen from articles and books which are relevant to the students' specialization.

The investigator has to say that two other teachers gave no specifications. As can be noticed, the fact that each teacher is left to himself for the production of materials, may worsen the teaching situation which may have an impact on the learning of the target language.

Questions 20 and 21: Linguistic Impediment to  
the Learning of English

ANSWER	R.F.*		A.F.*		ECONOMIC SCIENCES		PHYSICS		CHEMIS-TRY	
	ARABIC	FRENCH	ARA.	FRENC.	AR.	FR.	AR.	FR.	AR.	FR.
YES	50 %	37,5%	4	3	2	1	1	2	1	
NO	50 %	62,5%	4	5	1	2	3	2		
TOTAL NUMBER	100%	100%	8		3	3	4	4	1	

Table 3.22 : Linguistic Impediment to the Learning of English

From the above table, one may claim that French does not really impede the learning of the target language. In fact, the ratio of negative answers (62,5%) is higher than that of positive ones (37,5%).

The teachers who answered positively gave the following specifications:

- Interferences may occur at the phonic level (spelling, pronunciation and intonation) as well as the syntactic level (word order etc...)

- Pronunciation which sounds like French, may induce students into making errors.

- Most students think in French, hence construct sentences according to the French pattern while they are supposed to give English sentences.

Nevertheless, one teacher who gave a negative answer, specified that sometimes French is a helpful tool. Indeed, the researcher thinks that French may help mainly at the lexical level.

In contrast with French, Arabic may interfere negatively in the learning of English according to the above results. As a matter of fact, the ratio of positive answers (50%) is equal to that of negative ones (50%).

It is a pity that one teacher only specified the area of hindrance, in what follows:

- Arabic impedes at all levels and notably at the syntactic one.

A set of Arabic impediments will be supplied in the next chapter when dealing with linguistic problems.

#### Question 22: ESP Teaching Problems

This question was a graded one since the teachers were asked to select the alternatives in order of importance on a scale of 1-7. The most important problem was given number 7. The seven items are listed below:

- Item a: Lack of a definite syllabus
- Item b: Lack of adequate materials

- Item c: Hours of English insufficient
- Item d : Number of years insufficient
- Item e: Negative attitude towards English learning
- Item f: Lack of ESP training on the part of teachers
- Item g: Lack of collaboration between the language teacher and the subject specialists

From the above data stated for the 7 items, one may claim that the most important is item (a) 'the lack of a definite syllabus'. The second most important problem is item (c) 'Hours of English insufficient'. The third important obstacle is item (d) 'number of years insufficient'. It is, however, amazing to note that item (b) 'lack of an adequate material' was placed in the fourth position. Yet, materials constitute a necessary tool and its shortage may render the teaching of the target language ineffective. As for item (f) 'lack of training on the part of teachers', it was represented by number 5 which means that although the lack of training, ESP teachers try to do their best to render the course interesting and understandable. The two least problems, items (e) and (g), respectively 'Negative attitude towards English learning' and 'Lack of collaboration between the language teacher and specialists', were graded equally. It is encouraging to see that students do not witness negative attitude towards English. This reveals that they are motivated. However, it is surprising to note that the collaboration between both types of teachers was attributed number 7, that is, the least problem. This leads



to think that the collaboration is far from being an urgent need to be met. The attention is again turned to the four most important obstacles which should be taken into account so as to remedy and improve the learning and teaching situation.

**Question 23: The Necessity of the Collaboration  
between the Language Teacher and the Subject  
Specialists**

All teachers answered positively and gave the following results:

- 1/ The Subject Specialists may help the language teacher achieve his/her task.

- 2/ The collaboration helps the language teacher limit the linguistic areas as well as the appropriate skills to be focused upon.

- 3/ The teacher will identify the type of texts that students need to use so as to improve their performance in other subjects.

- 4/ The ideal situation would have been for the specialist to be himself/herself the language teacher as well.

It is pity, however, that the remainder (4) did not give specification. Nevertheless, one may deduce that the collaboration between both teachers is strongly desirable.

**Question 24 : Teachers' Assessment Concerning One Year English Course.**

The results were unanimously negative. This leads to think that the English course necessitates (an) extra year(s).

**Question 25 : Teachers' Suggestions concerning the Number of Years of English Course.**

NUMBER OF YEAR	R.F.	A.F.	ECONOMIC SCIENCES	PHYSICS	CHEMISTRY
1 Yr					
2 Yrs	37,50%	3		2	1
3 Yrs	12,50%	1	1		
4 Yrs	50 %	4	2	2	
Total Number	100 %	8	3	4	1

**Table 3.23: Teachers' Suggestion Concerning the Number of Years of English Course.**

As can be seen from the above table, the ratio of teachers who selected 4 years (50%) is high compared with the rest, respectively 37,50% (for 2 years) and 12,50% (for 3 years) Hence the prime ratio should be taken into consideration for the increase of years.

**Question 26: Teachers' Assessment Concerning the Amount of Hours per week of English Instruction**

The answers were unanimously negative. This means that extra hours are required.

Question 27: Teachers' Suggestion Concerning  
the Amount of Hours per Week of  
English Instruction

The results ranged from 3 to 6 hours. Most teachers (4) specified 4 hours. Thus, it also seems that additional hours are inherent to any improvement of the English course.

Questions 28 and 29: Teachers' Suggestions and  
Remarks with Respect to the  
Various Stated Problems

The numerous answers gave various and interesting suggestions and remarks as follows:

- Everybody should take English seriously
- ESP courses should be semi-intensive (about 6 hours a week during 2 years). ESP teachers should be full-time teachers in science institutes and have a specialized training. The collaboration between ESP teachers and subject specialists is necessary.
- Give the English language its due status in the peripheral institutes. The department of English should make the other institutes aware of the fact that they should provide materials to ESP teachers.
- Whatever the suggestions one may put forward, the status of languages at the university level is eminently political. If there is any option left for the researcher, the room of manoeuvre remains essentially technical and scientific, that is, limited.
- We need an audio-visual system that might enable students to learn English efficiently.

- Better organization of the English course is feasible on the part of the heads of the institutes of sciences.

- Decrease the weight and importance of Arabic as the main teaching language (in economic sciences) and take English into account since three-quarters of scientific documentation are in English.

- Have materials with content that fits the students' level, with a simplified language so that they benefit from it without facing too many troubles at all levels.

- Train adequately language teachers, provide appropriate syllabuses and materials, and increase the number of years and hours of English instruction.

According to the researcher, all the suggestions and remarks made by the language teaching body, should be taken into consideration for the improvement of teaching conditions. Indeed, several stated remarks emphasized some problems which impeded the teaching of the target language, i.e. the lack of materials and syllabus, the insufficiency of years and hours of English instruction and the like.

### 3.5 SUMMARY OF THE MAIN RESULTS

The data reported from the students and teachers' questionnaires reveal nearly the same results.

As far as the linguistic problems are concerned, both questionnaires confirm that French does not really impede the learning of English contrary to Arabic which interferes negatively in the target language at all levels and more

specifically, at the syntactic one. Besides, in the teachers' questionnaire, it has been observed that the speaking skill is the most important weakness. The listening skill comes after and writing third. It is, however, amazing to note that the ratio for the reading skill is inexistent in spite of the priority given to it in the students' questionnaire. Furthermore, according to students, the focus should also be on the speaking skill in order to develop students communicative competence.

Finally, the listening skill is viewed as less important despite the second important students' weakness in the teachers' questionnaire and writing as the least important in both questionnaires.

Moreover, with regard to motivation, the results connected with 'high' (50%), 'fair' (50%) and 'low' (0%) in the teachers' questionnaire, are different from those concerning the students' one, i.e. 'high' (27,29%), 'fair' (65,90%) and 'low' (6,81%). It is amazing to note these differences which are probably due to the fact that some students try to do their best even if they are not really motivated.

With respect to pedagogic problems, both questionnaires also agree with the lack of teachers' training, the insufficiency of the duration of the English instruction and teaching time per week.

Concerning practical problems, there is no doubt that a definite syllabus and appropriate materials are strongly required by both groups.

### 3.6 CONCLUSION

The questionnaires designed for the students on the one hand and the teachers on the other, were made to glean information from two different bodies in the same line of study, as much as possible. In other words, the researcher's concern was to determine whether there was a conflict or matching of thoughts between the two pedagogical partners.

Another reason for the use of two questionnaires, lies in the fact that cross-referencing will probably give ideas for further consideration and enable the investigator to identify a set of problems endured by two different bodies so far.

The following chapter, therefore, will try to identify the problem areas in the chemistry department.

## CHAPTER FOUR

### Identification of Problem Areas in the Department of the D.E.S

#### Chemistry

#### 4.1 Introduction

#### 4.2 Failure of Learning

##### 4.2.1 The learners

- (i) Learners' Profile
- (ii) Learners' Level of Proficiency
- (iii) Motivation and Attitudes to Learning
- (iv) Emotional Factor : Anxiety
- (v) The Learners' Social Situation

##### 4.2.2 Linguistic Problems

- (i) Contrastive and Error Analyses
- (ii) Phonology
- (iii) Grammar
  - (a) Word-order
  - (b) Auxiliaries and Negatives
  - (c) Pronouns
  - (d) Tenses
  - (e) The Passive Voice
  - (f) Articles
  - (g) Adjectives and Adverbs
  - (h) Gender and Number
  - (i) Prepositions and Particles
  - (j) Subordinate Clauses
- (iv) Vocabulary
  - (a) Distribution
  - (b) Cognates
  - (c) Deceptive Cognates
- (v) Graphology

#### 4.3 Additional Problems

##### 4.3.1 The Educational System

##### 4.3.2 The Syllabus

##### 4.3.3 The Method

##### 4.3.4 Materials

##### 4.3.5 The Teacher

#### 4.4 Conclusion

## CHAPTER FOUR

### Identification of Problem Areas in the Department of the D.E.S Chemistry

#### 4.1 Introduction

"-A problem is due to causes; it has consequences; it requires solutions.

-As it manifests itself through them, the consequences are the first observable aspect of a problem.

-The solutions to many problems can be found simply by examining their causes".  
(Bouabdallah and Djemai, 1988,p. 12)

The causes of the failure of English learning are manifold and due to numerous factors as follows:

- Linguistic factors which involve the known languages such as French and Arabic on the one hand and the target language (i.e. English )on the other.

- Psychological factors with respect to the target learners' age and moral state when learning English.

- Sociological factors related to the learner's social situation such as family problems and the like.

- Pedagogic factors in relation with the syllabus, method, materials, teaching time on the one hand and the ESP teacher's know - how on the other.

Hence, the present chapter will display the existing problems at all levels as cited above. For the sake of



overcoming them, as much as possible, a close diagnosis will be necessary.

## **4.2 Failure of Learning**

### **4.2.1. The Learners**

The target learners are regarded as 'false-beginners' or 'post-beginners' (Robinson, 1980) because they studied English at the middle and secondary levels. Unfortunately, the inexistence of English instruction during three years at tertiary level, has created a void which is one of the major problems encountered by these learners.

#### **(i) Learners' Profile**

There are two groups respectively Arabophone and Francophone, both with Algerian Arabic as mother tongue, classical Arabic as L1 and French as L2 for the former group and vice-versa for the latter one. One can assume that Arabophone students may encounter more English learning problems than the Francophone ones. This is due partly to the fact that Arabic is syntactically, lexically, graphically completely different from English. A contrastive analysis will help the researcher confirm this view.

#### **(ii) Learners' Level of Proficiency**

In spite of a long period (five years) of English learning before entering university, the learners' level of

proficiency is rather low. Needless to say that the inexistence of English course for three years has worsened their level.

According to the data collected thanks to the students' questionnaire, it appears that nearly half the two groups are beginners (47,72%), the others are at an intermediate level (52,28%). These mixed-ability groups have engendered the problem of managing heterogeneous levels, hence the problem of the organization of the course. This means that the ESP teacher has to be cautious when designing the syllabus. In fact, this is not a simple task since the teacher must take into account the various levels existing in the same group.

Moreover, the English course is viewed as an additional subject and therefore less serious than the main subjects included in the chemistry curriculum. The latter point has an impact on the learners' motivation dealt with hereafter.

### (iii) Motivation and Attitudes to Learning

It is interesting to note that from the students' questionnaire, most students are fairly motivated (65,90%), a few students are very motivated (27,29%) and only a minority is not motivated at all (6,81%). From these results, one can deduce that 'motivational intensity', which stands for the fact of 'knowing how strongly he (the learner) desires to do so (Van Els et al., 1984), is not the same for all the learners without neglecting those who are not motivated at all. The latter type of learners are probably pessimistic with regard to English

learning. Those who are fairly motivated are not quite sure of the success of learning but try to make some efforts. As for those who are strongly motivated, they are certainly sure of success. In sum, one can assume that if motivation is not totally shared, this leads to think that there is something wrong either in the choice of the contents of the ad hoc syllabus or in the teaching process.

Before going any further, it is worth giving some definitions of motivation. The first studies on motivation as well as attitude were conducted by Gardner and Lambert in 1959. According to Gardner, motivation:

"...involves four aspects, a goal, effortful behavior, a desire to attain the goal and favourable attitudes towards the activity in question".  
(Gardner 1985, p.50).

Indeed, the writer thinks that motivation goes hand in hand with positive aspects namely positive attitude and achievement of the target language. Likewise, Rogers defines motivation as:

"...those factors that energize and direct behavioural patterns organized around a goal. ...Motivation in education is that compulsion which keeps a person within a learning situation and encourages him or her to learn".  
(Rogers, 1986, p. 61)

As previously mentioned, the learners who are fairly motivated and mainly those who are not motivated at all, do not probably believe in the success of English learning. It can be

justified by the fact that one-year course and two-hours contact a week are not sufficient to allow consistent learning.

One can say that motivation poses a genuine problem in the target situation and can influence the learners' attitude towards English course. It has been observed that attitudes and motivation are closely related to the achievement of the target language (Gardner and Lambert, 1972 and Gardner, 1985). Van Els et al. are of the same opinion that:

"...attitudes and motivation have usually been lumped together into a cluster of factors which were held jointly responsible for relative success or failure in L2 learning".  
(Van Els et al., 1984, p.117)

One can note that negative or positive attitudes vis-a-vis language learning depend upon the extent of motivation labelled 'motivational intensity'. One can then underline that if the learners are strongly motivated, this will generate and develop a positive attitude towards the learning of the target language. On the other hand, they will display a negative attitude in case of low or inexistent motivation. This is no less the case of the minority of chemistry students (6,81%) who are not motivated at all and for whom absenteeism is the escape from the English course with all its constraints.

Furthermore, the target learners' attitudes depend on the success or the failure of their learning before entering university as Kennedy and Bolitho write:

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"Attitudes to an ESP course may be influenced by a student's previous learning. Where this learning has not been successful, there may be a negative feeling towards something which in the past has connotations of failure".  
(Kennedy and Bolitho, 1984, p. 15)

Hence, one may think that the low level of proficiency, the insufficient one-year course and the two-hours contact plus past failure at the middle and secondary levels, all contribute to engender a lack of motivation and a negative attitude vis-a-vis English learning among some chemistry students.

(iv) Emotional Factor: Anxiety

The learners' age can also create an emotional problem, i.e. anxiety. This phenomenon may be observed in adults when learning something. In fact, anxiety can be found in adults who see the utility of English learning and therefore, anxious not to succeed. This anxiety consists of:

"...two main elements: fear of externally imposed requirements that are seen as a threat, and worries about the capacity to cope, about self-esteem".  
(Rogers, 1986, p. 163)

To quote Rogers again:

"....there are many causes of anxiety. There may be an awareness of the process of ageing....declining powers of memory and concentration".  
(Ibid)

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One accepts Rogers' viewpoint because it is believed that the adult learner is most of the time afraid of failing in front of his class-mates and teacher. Second, the capacity of memorizing and keeping one's attention on the work, is diminished. One may believe that some students decide not to attend the English course to avoid such a malaise. Besides, one should also mention two findings in educational psychology, which can block the learner's motivation, they are : 'fear of success'( people feel guilty if they succeed) and 'learned helplessness'( students expect to fail).

As a result, one may then think that anxiety can be a blockage, "anxiety inhibits complex learning tasks" (Rogers, 1986). An extra factor may also generate a blockage namely the learner's social situation.

(v) The Learner's Social Situation

It may also occur that some students have worries such as the lack of money, family problems and the like and therefore, cannot concentrate upon the English course:

"More important, more frequent ... are ...situational causes;... contextual factors such as ...preoccupations (money, family needs, work, shopping, etc..) may weigh on the minds of the learners".  
(Rogers, 1986, p. 158)

These worries which seem not to have direct link with language learning, are in fact variables which can distract the learner's attention in what he is doing or diminish his motivation and thus prevent him from achieving successful learning.

#### 4.2.2 Linguistic Problems

Languages in contact, as are Arabic and French, can impede the learning of the target language. Arabic is a Semitic language with phonological, grammatical, lexical and writing systems different from those of English which is an Indo-European language.

The target learners who are Arabic-speaking people, have formed habits of all the features belonging to their native language. Hence, in trying to learn English, students make errors in the four previously listed systems, which are due to the contact of the known languages. In what follows, the researcher will deal with a 'contrastive analysis', the concern of which, is to make a comparison between Arabic and English, between French and English, or between Arabic, French and English as in the target situation. Moreover 'contrastive analysis' (CA) helps to predict errors which can be committed by the target learners.

##### (i) Contrastive and Error Analyses

Before embarking on a display of linguistic problems, it may be valuable to give a definition of 'contrastive analysis' which is:

"....systematic comparison of specific linguistic characteristics of two or more languages".

(Van Els et al. , 1984, p. 38)

In his book Introducing Applied Linguistics, (1973), Corder clearly shows the usefulness of CA to examine the differences and similarities between two or more languages. Nevertheless, CA greatest concern is 'interference'. Weinreich (1953) has played an important part in the development of this term which is also labelled 'negative transfer'. Furthermore, CA enables to deal with 'error analysis' which is defined as:

"....a technique for identifying , classifying and systematically interpreting the unacceptable forms produced by someone learning a foreign language, using any of the principles and procedures provided by LINGUISTICS".

(Crystal, 1985, p. 112)

What follows is a display of linguistic errors at the four linguistic levels namely phonological, syntactic, semantic and graphic.

#### (ii) Phonology

The Arabic and English phonological systems are not twins. The former contains three short and three long vowels and twenty five consonants (see Arabic Alphabet in Appendix E) which can be written differently depending on the position they occupy. The latter comprises eleven vowels which can be short or long, nine diphthongs, two semi-vowels and twenty consonants.

Therefore, drawing a distinction between some consonants e.g. [ p ] in English and [ b ] in Arabic is not easy. Moreover, as English diphthongs such as [ ei ] do not exist in Arabic, they are rather shifted into Arabic vowels, i.e. [ i ] for phonological convenience.



Errors may also occur in stress and intonation as a result of carrying over some of the Arabic language habits into English as Lado writes:

"We tend to transfer to that language our phonemes and their variants, our stress and rhythm pattern, our transitions, our intonation patterns and their interaction with phonemes".

(Lado, 1957, p. 11)

The attention is again turned to consonants. Some English consonants namely [ v ] and [ ŋ ] do not exist in Arabic and are, therefore, pronounced differently when learning English , e.g. [ ð ] for [ v ] and [ n ] for [ ŋ ].

There are other cases where Arabic speaking students encounter phonological difficulties as in English consonant clusters i.e. 'pr, pl, gr, gl, thr, thw, sp' (Smith, 1987) which are ranged among 'initial two segment clusters' (Ibid). Smith adds the case of 'initial three segment clusters namely 'spr, skr, str, spl'. The final case of clusters may be identified among 'final two segment clusters and final three segment clusters'.

As far as the French and English phonological systems are concerned, both are also different. There are consonants which exist in English and not in French namely [ ð ] and [ θ ]. As for English vowels, they are similar to the French ones

except that the latter are short. At last, the French phonological system does not contain diphthongs. Hence, the English phonological system is wider than the French one.

It is interesting to note, on the other hand, that the French phonological system comprises more vowels but less consonants than the Arabic one. In addition, one must recall that all the target learners know French but to a lesser extent with regard to the Arabophone group. Thus, they are supposed to know the Arabic and French phonological systems which might be complementary and, therefore, could constitute a favourable factor for the learning of the English phonological system. In the light of the data collection from the students' questionnaire (see questions 22-23), it appears that the target learners have encountered some phonological problems at all levels of education.

(iii) Grammar

Arabic and English have different structures. The former language may generate some problems of interference as Lado puts:

Those structures that are different will be difficult because when transferred they will not function satisfactorily in the foreign language".  
(Lado, 1957, p. 59)

Indeed, when learning English, the target learners transfer the grammatical structures of their native language into English unconsciously:

"We know from the observation of many cases that the grammatical structure of the native language tends to be transferred to the foreign language.... . We know that this transfer occurs very subtly so that the learner is not even aware of....."  
(Ibid, p. 58)

With respect to Arabophone students, they encounter serious grammatical problems like the following: word-order, auxiliaries, pronouns, tenses, the passive voice, articles, adjectives and adverbs, gender and number, prepositions and particles, and subordinate clauses.

One must mention that Smith's model with regard to grammar has been adapted because it suits the Arabophone students. As for the Francophone ones, they also encounter grammatical difficulties but to a lesser extent. Hence, the attention is again turned to the Arabophone population since it is more involved in grammatical problems. The following set of incorrect grammatical examples has been drawn from an initial test and exam papers.

(a) Word-order

Word-order systems are different in Arabic and English. For example, in Arabic the adjective is placed after the noun and no auxiliary is needed, e.g. \* pressure high, whereas in English the adjective comes before the noun or after the auxiliary to be, e.g. high pressure or the pressure is high.

(b) Auxiliaries and Negatives

The auxiliaries do and does in English questions and negations do not appear in Arabic. Hence, the target learners will say, e.g. \* the solid changes? and \* the liquid not changes. The Arabic negations are formed by putting a particle ( لا or لا ) before the verb.

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\* incorrect form

(c) Pronouns

With regard to pronouns, the Arabophone audience tends to use a pronoun in English after the word it belongs to, e.g. \* the substance it has a definite mass. The redundancy of the pronoun is found in literal translation from Arabic.

(d) Tenses

As far as tenses are concerned, they do not pose a major problem for the above learners as well as for the Francophone ones since they are rather concerned with the present simple which is the main tense in scientific English.

(e) The Passive Voice

Concerning the passive voice, the omission of the English copula has been observed because of its inexistence in Arabic. Hence one might hear or read: \* some substances made up of single atoms instead of some substances are made up of simple atoms.

One must recall that the passive is significant in scientific English and considered as a real problem among Arabophone students. Therefore, it should be taken into account in a remedial work or model lesson.

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\* incorrect form

(f) Articles

With respect to articles, it should be mentioned that Arabic contains the definite article only, whilst French and English include the definite and indefinite articles. Consequently, the inexistence of the indefinite articles in Arabic causes a problem for the Arabophone students who either omit the article or put it wrongly, e.g. \* liquid is state and \* the water boils at 100°C instead of liquid is a state and water boils at 100°C. In Arabic, the single definite article is used in the form of a prefix (ال). On the other hand, there is also the case of abstract nouns where English uses no article e.g. freedom, whereas the definite article 'le' for masculine and 'la' for feminine is used in French and 'ال' in Arabic.

(g) Adjectives and Adverbs

With reference to adjectives and adverbs, it can be observed that they are placed after their nouns. Moreover, adverbs are rare in Arabic. Thus, the target learners tend to use adjectives too much and wrongly as in the following example: \* a change occurs frequent instead of a change occurs frequently. These learners often mix up adjectives and adverbs in English as stated in the following assertion:

"There is frequent confusion between the adjective and adverb forms in English, and the adjective form is usually overused".  
(Smith, 1987, p. 150)

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\* incorrect form

(h) Gender and Number

As far as gender and number are concerned ,one must say that Arabic has masculine and feminine gender. Plurals of nouns not referring to human beings are regarded as femining singular. Therefore, the arabophone learners form the plurals of noun in English in using feminine singular: e.g. \* she are formed in a chemical reaction, 'she' stands for 'products'.

Furthermore, Arabic nouns placed after numbers above ten, take the singular and this is often transferred negatively into English :e.g. \* 10 book instead of 10 books.

(i) Prepositions and Particles

Turning now to prepositions and particles, one can claim that they are numerous in Arabic. However, it may be observed that English and French do not use the same prepositions and particles as in the following instances :

	Arabic	French	English
to be responsible	from	of	for
to be afraid	from	of	for

(j) Subordinate Clauses

As for Arabic subordinate clauses, they are different from English ones. In Arabic, the preposition for is used in clauses to express a purpose, e. g. \* the students learn English for I go abroad. In addition, the relative pronoun is

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\* incorrect form

formed in Arabic according to the masculine or the feminine gender, but not for human as in English. Therefore, the learners in question, cannot easily draw a distinction between which , who, that, etc.

As can be observed, the Arabophone students may transfer all the grammatical structures of Arabic into the target language as Lado clearly claims:

"The student tends to transfer the sentence forms, modification devices, the number, gender, and case patterns of his native language".  
(Lado, 1957, p. 58)

If the investigator has mainly dealt with the Arabophone group, it is due to the fact that it constitutes the group which has encountered more grammatical difficulties than the Francophone one according to the writer's personal observation.

#### (iv) Vocabulary

Negative transfer may also be noted at the lexical level. The Arabic and English lexical systems are different 'in form, meaning and distribution' as Mehdiwi (1975) claims. This is not, therefore an easy matter for Arabophone students to understand the word form in English.

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(a) Distribution

Unlike Arabic and French, English contains a number of words which may function either as verbs or as nouns.

e.g. -To increase/ an increase

-To decrease/ a decrease

These inconsistencies in the English language may baffle the language learner. Such a distribution cannot be easily grasped by the Arabophone as well as the Francophone students:

"It is difficult for the foreigners to grasp the distributional forms of words in English".

(Lado, 1957, p. 76)

(b) Cognates

Between English and Arabic, cognates do not exist. However in French and English, cognates occur very often e.g. condensation, evaporation, solution and so forth. One can note a large number of cognates in both languages, which do not pose a real problem for both groups of learners since they know French. On the other hand, one can observe the case of words which are similar in sound but different in meaning labelled 'deceptive cognates'.



(c) Deceptive Cognates

Such a type of cognates exists in Arabic as well as in English as follows:

- feel [ fi:l ] in English which stands for elephant in classical Arabic
  
- cool [ Ku:l ] in English which stands for eat in Algerian Arabic.

However in French and English, words are rather different in sound but similar in meaning, as follows :

	English	French
date	[ deit ]	[ datə ]
direction	[direkʃən]	[ direksi <sup>3</sup> ]

In short, it may be noted that in the lexical area, similarities and differences can be found either in form or in meaning as Lado writes:

"Comparing the foreign language vocabulary with that of the native language we will find words that are:

- (1) similar in form and meaning,
- (2) similar in form but different in meaning
- (3) similar in meaning but different in form,
- (4) different in form and meaning,
- (5) different in their type of construction,
- (6) similar in primary meaning but different in connotation
- (7) similar in meaning but with restrictions in geographical distribution".

(Lado, 1957, p. 82)

(v) Graphology

"Graphology in its linguistic sense, is the study of the systems of symbols that have been devised to communicate language in written form. It.....refers to the study of handwriting as a guide to character and personality".

(Crystal, 1987, p. 194)

Indeed, graphology involves the writing system of a language which is different from another language such as in Arabic and English. As far as Arabic is concerned, one may note first, the right to left direction of the writing contrary to English and French. Next, Arabic uses scripts which are completely different from those of English and French. Third, Arabic uses consonants, short and long vowels. The latter are not only represented but also read. In English, however, long vowels are not represented but pronounced. As for French, there are short written consonants and vowels only. Lastly, the Arabic writing system does not use capital letters at the beginning of sentences nor with proper and common names unlike English and French.

In spite of all the listed differences between Arabic and English writing systems, Arabophone students do not encounter serious problems in writing English since the knowledge of French writing system which is similar to the English one, facilitates the task. Nevertheless, one must claim that a problem of slowness can be observed.

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In sum, one can posit that all languages have some common and different features which can be transferred positively or negatively into the learning of the target language. It is towards this that 'contrastive analysis' functions. In addition, C.A is intended to determine learning problems and predict problem-areas and errors which can occur during the learning of the foreign language. Finally, via CA, the language teacher can design a syllabus and write materials relevant to his/her learners. This is also the case of 'error analysis' which:

"...is in part used for constructing appropriate syllabuses and teaching materials".  
(Corder, 1973, p. 263)

According to the writer's personal experience, linguistic problems and errors are more significant among the Arabophone students than the Francophone ones and viewed as inherent to the learning of the target language as quoted hereafter:

"Errors are truly a part of the learning process".  
(Hahn, 1987, p. 10)

The identification of a series of errors will enable the teacher to unveil the learners' weaknesses:

"Errors will show the teachers the kinds of problem the learning is facing and overcoming...teachers need to become aware of the relative significance of various kinds of error".  
(Brumfit, 1980, p. 126)

As a matter of fact, the awareness of the number of errors will allow the teacher to build up a syllabus accordingly as Corder (1973) clearly states it. Therefore, the language teacher should take all the learners' difficulties into consideration in order to bring some possible remedies.

#### **4.3 Additional Problems**

##### **4.3.1 The Educational System**

With regard to the teaching of ESP in Algeria at the tertiary level, the Ministry of Universities and Scientific Research has not clearly defined the status nor the role of such a teaching. Since nothing has been done concerning ESP so far, there are, therefore, a number of gaps to be bridged:

- the lack of a specific syllabus in most scientific and technical institutes at the university of Annaba and probably elsewhere in Algeria.
- the lack of adequate materials.
- the lack of teachers' specialized training.
- the insufficiency of years of ESP course.
- the insufficiency of teaching time per week of ESP course.

Indeed, the one-year course and the two-hours contact a week have rendered the teaching task more difficult in the target situation. The teacher has to devise the course according to the given time which is very restricted. One

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wonders whether a teacher can cover all what the target learners need to learn English efficiently. One must acknowledge that this is not feasible. Therefore the insufficiency of the teaching time should be tackled seriously in order that the English course becomes more consistent, the target learners more motivated and the ESP teaching task a pleasant one.

In attempting to overcome all the listed problems, the so-called ESP teachers have worked randomly. In other words, they have used ad hoc syllabuses and materials. In addition, teachers' training is a pedagogical problem the educational system has neglected. Surprisingly enough, the inclusion of ESP courses at the tertiary level is purposeful and yet, nothing has been done to meet its purpose. This leads to think that the educational system is full of contradictions and abnormalities. One has the feeling that general English and ESP are not treated as of equal importance in spite of the growth of ESP mainly in the Arab countries for which it is regarded as an opening to the technical and scientific world. Furthermore, one can think that a few educational projects should be introduced so as to take the ESP teaching/learning situation seriously.

#### 4.3.2 The Syllabus

Generally speaking, in language teaching, the teacher is often faced with an inadequate syllabus but in the target situation, the problem lies in the inexistence of a syllabus. Hence the problem is quite different. Freedom is given to the

ESP teacher to devise a personal syllabus but one can wonder whether the ad hoc syllabus is appropriate to the target learners' needs.

Nevertheless, it should be acknowledged that the construction of a specific syllabus for each institute, requires a lot of work and time from the educational authorities. Thus, one can believe that it could be better for the ESP teacher who is in close contact with the students, who knows their level of proficiency, their problems and their needs, to write a syllabus accordingly. Yet, the writing of a syllabus is not a simple task for a teacher who is not specialized and requires too much time for someone whose task is also to teach in parallel. In fact, the freedom of syllabus design will probably engender another problem. In short, the ESP teacher cannot write a syllabus alone since he/she lacks training. This requires the collaboration with a subject teacher. Unfortunately, up to now the ESP teacher is nearly left on his own.

Consequently, one has to take the responsibility for designing a syllabus, either the Ministry or the ESP teacher who has first, to follow a specialized training before embarking on the difficult task of syllabus design.

#### 4.3.3 The Method

Concerning the problem of method, one must recognize that so far there has been no unique method. Over the years,

many methods emerged but they have failed because no method is the right method :

" It should be stated right away that there be no question of proposing a certain methodology. There is no royal road to foreign ability, and methodological choices will have to vary in accordance with the circumstances under which the learning / teaching process has to take place.  
(Van EK, J.A, 1976, p.20)

In other words, the method selected rests upon the teacher, the learner, the working conditions, etc.

With regard to the researcher, the method which has been adopted up to now, is not specific since it has been a combination of reading and grammar methods:

- The use of the reading method is due to the fact that the target learners require a lot of reading in their specialization.
- On the other hand, the grammar method aims at overcoming syntactic problems.

Since the method is closely related to the teacher who, in the target situation, has encountered a lot of difficulties and moved from one method to another, one can wonder whether or not the shift from one method to another can be a problem. According to Palmer, this shift is seen as beneficial since:

"...it boldly incorporates what is valuable in any system or method of teaching and refuses to recognize any conflict, except the conflict between the good and inherently bad".  
(Palmer, 1964, p. 110)

Therefore, the method adopted by the investigator so far, is not viewed as a problem since it is possible to combine a series of methods which include the best aspects and can be relevant to the target learners.

#### 4.3.4 Materials

There is a great deal to be said about the lack of materials in the target situation and even elsewhere namely the institutes of physics and economic sciences. According to the results gathered from the teachers' questionnaire (see chap. three) as regards the problem of materials, the concerned teachers are left to themselves to supply the lack of materials. It goes without saying that these teachers are complaining about this shortage of materials, the difficulty to supply and write them. Indeed, it is not an easy task and time will be saved if each language teacher can find materials available on his/her arrival at the department or some indication of suitable materials to use at each level.

#### 4.3.5 The teacher

In any teaching situation, the teacher plays an important role. Indeed, the teacher acts as an instructor and guide. In the students' mind, the teacher should show a good



training. However, the teaching of ESP engenders a knotty problem of training as quoted below:

"A serious problem for ESP in many parts of the world lies in the provision of an adequate supply of teachers. In most cases the people teaching and administering ESP programmes have themselves received no special training in ESP".  
(Robinson, 1980, p. 75)

Robinson's view is shared by many linguists namely Strevens(1977), Swales (1985), Mackay (1978), Mountford (1978), Kennedy (1984), Bolitho (1984) and others. This is no less the case of Algerian universities where the language teacher is asked to teach ESP without any previous training. One has to recall that his/her training is rather general or literary. This, of course, engenders thorny problems the teacher encounters, i.e. the lack of self-confidence created by the ignorance of the subject, the lack of mastery of the specific language and finally the reluctance of teaching ESP.

With respect to the target situation, the researcher has sometimes suffered from the lack of co-operation from the specialist and even from the administration of the institute of chemistry. Owing to this, the target teaching has been done at random. Hence, one can assert that the ESP teacher's situation and working conditions are not enviable. This adds up to the already difficult task of teaching. But nothing is insuperable.

#### 4.4 Conclusion

The present diagnosis of problem-areas will enable the investigator to suggest some remedies and recommendations, to improve hopefully matters or at least avoid some errors.

Languages in contact have not always been a blockage to the learning of the foreign language. Nevertheless, one can observe that linguistic problems are more important among Arabophone students.

Extra problems such as the lack of teachers' training, syllabus and materials, the constraint of time, engendered by the educational system, have worsened the teaching/learning situation which can but get better in the years to come if sine qua non conditions to efficient teaching/learning of ESP were restored.

## CHAPTER FIVE

### Recommendations and Perspectives

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#### 5.4 Conclusion

## CHAPTER FIVE

### Recommendations and Perspectives

#### 5.1 Introduction

For the sake of an upturn regarding the English teaching/learning situation in the chemistry department, the present chapter will be entirely devoted to some possible solutions and recommendations which will hopefully overcome the problems identified in the previous chapter where the writer has attempted to specify the most important obstacles during the teaching/learning of the target language.

#### 5.2 Recommendations

In the hope of eradicating most existing problems in the above department, the researcher will endeavour to recommend a more adequate way of teaching and learning English and a more suitable curriculum.

##### 5.2.1 Reconsidering the curriculum

In order to avoid the intellectual linguistic vacuum, ie. the inexistence of English during three tertiary years, the Ministry of Universities should see language in the continuum secondary school university. Furthermore, English learners should start ESP courses in secondary schools to be acquainted with scientific and technical English.

Last but not least, the design of a syllabus and the production of materials represent urgent needs to be met to better the teaching of the target language. Therefore, the Ministry of Education and the Ministry to Universities should take into account all the listed factors so as to ensure satisfactory teaching/learning conditions.

### **5.2.2 Syllabus Design**

Since there is no syllabus in the target situation, the researcher will, then, have to design the most adequate one. Nowadays in syllabus, there has been a shift of emphasis from the structural to the communicative trend. The former type of syllabus, also labelled the grammatical syllabus, is considered as being deficient since it does not allow the learner to practise English communicatively. In contrast, the communicative syllabus, also termed notional-functional, is claimed to be efficient since it enables the learner to foster 'Communicative Competence' i.e. 'the ability to act communicatively in appropriate contexts via the linguistic knowledge' (Widdowson 1979).

#### **(i) The Functional-Notional Syllabus**

The choice of such a syllabus does not mean that grammar should be neglected. On the contrary, the notional syllabus seems to be a complete one since it covers the grammatical and functional items. Hence, one can judge the importance of devising this syllabus especially in the target situation. It should be borne in mind that what characterises

such a syllabus is its' learner-centredness (chap.three). Although the students' prime objective is reading, the syllabus proposed hereafter, will adopt as a starting point a communicative activity such as pre-reading questions connected with the given text. This opening activity will probably involve and motivate the target learners. The communicative activity will, thus, allow the learners to negotiate meanings through English. In short, they need to feel at ease and confident when learning the target language.

The activities related to the text will emphasize the listening, speaking and reading skills rather than the writing skill in order to enable the learners to develop reading as well as communicative competence (Hymes, 1960).

(ii) Discourse and Register Analyses

Since the speaking skill is viewed as the second most important skill in the target situation (chap.three), it is consequently recommended to deal with discourse since it is the main concern of EST. Indeed, the communicative approach and discourse go hand in hand since their common purpose is communication. In other words, they both enable learners to achieve communicative purposes. Strevens (1978) stated that EST deals with the selection of communicative purposes special to science and technology.

As for the concept of 'discourse analysis', it is seen as a recent development in ESP and :

"... focusses on the structure of naturally occurring spoken language as found in such 'discourses' as conversations, interviews, commentaries and speeches".  
(Crystal, 1987, p.116).

Discourse analysis places the centre of interest on the structure of spoken languages to perform communicative acts. Lee kok Cheong in Robinson (1980) acknowledges the good results of discourse analysis in ESP so far.

Concurrently, the introduction of the notion of 'register analysis' also contributed to the development of ESP (Ewer and Latorre, 1979). With regard to ESP teaching, a particular type of language is used which may be different from that found in general English courses. This special language is labelled 'register' and is viewed as one type of language peculiar to a given context or situation. In fact, the register of scientific English is different from another. This means that register differs according to the field of discourse. More precisely, register is considered as one kind of language resting upon the social situation, the profession or field of study which, in our case, is chemistry.

It has been observed that chemistry textbooks contain a special lexis (e.g. oxygen, hydrogen) on the one hand and particular aspects of syntax (e.g. the passive voice) on the other. As Van Els et Al. (1984) claimed, registers can also be distinguished from others at the syntactic level. The structure of the passive voice is often used to provide definitions as in the proposed text included in the sample lesson.

There is reason to believe, then, that register and discourse should be the concern of language course designers

mainly in ESP teaching since the communicative approach is recommended to cater for the ESP students' needs.

**(iii) The Choice of a Method : Eclecticism**

Over the years, various methods have emerged in language teaching. Among all methods clearly defined by Mackey (1965), the syllabus designer or the language teacher can select a method which best suits his/her course. It should be borne in mind that, nowadays, there is a trend towards communicatively - oriented courses in language teaching mainly in the field of ESP (Robinson 1980, Widdowson 1979 and others). This is no less the case of the English instruction in chemistry.

Using the data collected (chap.three), the researcher will attempt to design a syllabus based on the 'Communicative Approach' which promotes 'Communicative Competence' in the target population. For this purpose, the writer will choose some aspects of various methods which are, at first sight, interesting namely, the direct method, the reading method, the grammar method and the unit method.

Nevertheless, this set of methods cannot be wholly applied in the target situation because of some irrelevant features these methods present. Hence, as a solution, the researcher will turn to 'Eclecticism'. Language teaching is a complex process and it is generally acknowledged that there is no unique method of language teaching. Each situation of teaching is different from another because of a number of variables (e.g. the students' level of proficiency in English, the size of the class, etc...). Therefore, one may think that there is a



trend towards individualization of instruction. The adoption of the eclectic attitude allows the language teacher more freedom of instruction. Mackey gives a complete definition of 'Eclecticism' which is :

"... a compromise between the Direct Method, with its many demands on the teacher coupled with its alleged inaccuracy for the learner, and the more formal methods based on grammar rules and translation..."

(Mackey, 1965, p.154)

This means that 'Eclecticism' is the association of many and sometimes conflicting methods. Furthermore, eclecticism is a flexible way of proceeding which enables the teachers to select what best suits their situation. In sum, Eclecticism seems to be the most adequate way of facing the problem of implementing a given programme in a situation as complex as ours.

### 5.2.3 Writing Materials

There is no doubt that effective teaching mainly ESP teaching rests upon many variables notably the availability of materials. In the target situation, the lack of materials was acknowledged unanimously (chap.three). Left to herself, the ESP teacher used ad hoc materials. Yet, the production of such materials is not an easy task since the ESP teacher is not a subject specialist. Nevertheless, the specification of a syllabus can guide the language teacher toward the writing of materials as stated by Robinson (1980), Hutchinson and Waters (1987) and others. Indeed, with home-made materials, the

teacher can perform his/her task efficiently because producing one's own materials can help the teacher avoid unpredicted problems to happen if one was to adopt any published textbook not specifically targetted.

Hutchinson and Waters suggest the model below for materials development.

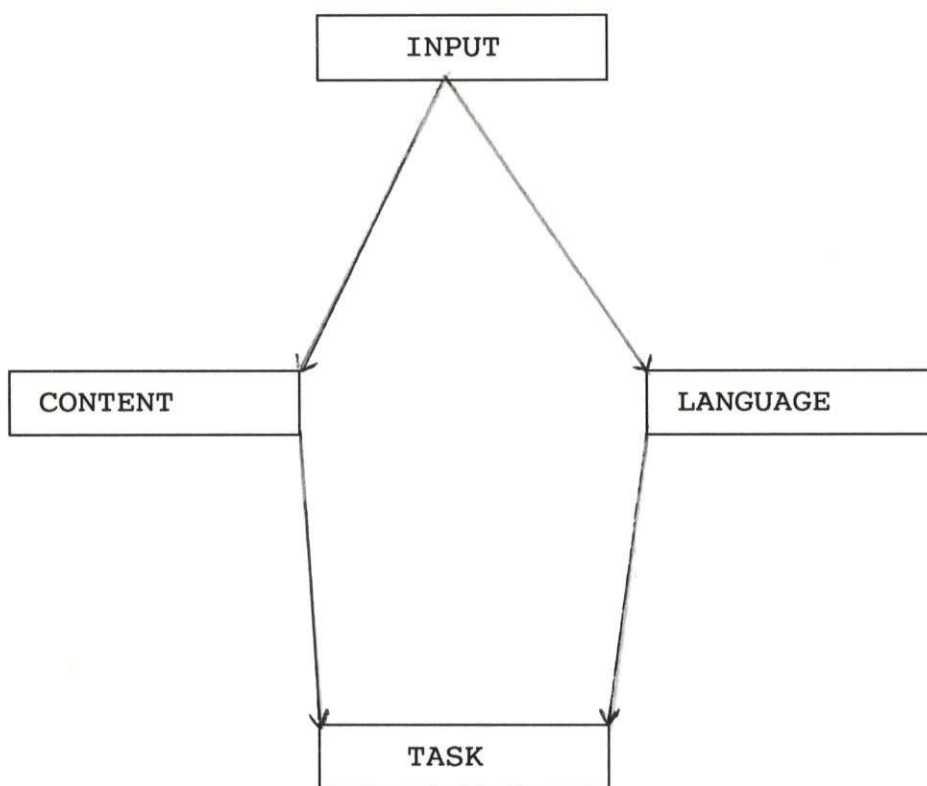


Figure 5.1 : A MATERIALS DESIGN MODEL

SOURCE : Hutchinson and Waters, 1987, p.109

This model is the combination of four elements 'input, content, language and task'.

- The former element may be 'a text, a dialogue, video-recording, diagram or any piece of communication data'.

- The second one is 'a means of conveying information and feelings about something'.

- The aim behind the third one is 'to enable the learners to use language'.

- As for the final element 'materials should be designed to lead towards a communicative task'. (Hutchinson and Waters, 1987).

Given that, the researcher will adopt Hutchinson and Waters' Materials Design Model since it suits the target situation. In fact, as an input, the writer will use a text the content of which will convey information such as definitions. As for language and task, the target learners are required to undertake numerous activities so as to practise English communicatively.

Besides, the utilization of 'authentic materials' in ESP teaching is generally viewed as necessary (Robinson, 1980). Owing to usefulness of authentic materials/realia in the ESP teaching, the researcher will use them once the learners acquire the basic aspects of the target language. In other words authentic materials will be dealt with at the advanced stages and gradually.

(i) Authentic Texts

An authentic text is a text which is not written for pedagogical purposes. Therefore, it presents a real target. Generally speaking, no specific textbook is provided to the ESP teacher. Thus, the latter attempts to use authentic texts from different sources which, he/she thinks, are relevant to the students' field of specialization on the one hand and supply real examples of language in use in the given community on the other. In fact, the use of authentic texts in a course :

"...will be the means by which he (the learner) can bridge the gap between classroom knowledge and an effective capacity to participate in real language events".

(Wilkins, 1976, p. 19)

Moreover, authentic texts are recommended in any ESP course since they are intensively motivational. Indeed, the learners are more disposed towards their task than if simplified and irrelevant materials were used. As a result, one may underline the importance of authentic materials.

Nevertheless, the ESP teacher should be cautious about the utilization of such texts. Morrow (in Robinson, 1980) strongly recommends us not to blindly use authentic texts in the sense that they present particularities due to specific situations. He, then, proposes that every text should have a 'topic, function, channel and audience' which are particular to it in order to suit the target situation. Thus, the ESP teacher should take into account the possible drawbacks of authentic texts.

#### a - Text Selection

To produce a learning programme, the teacher will have to deal with the selection of texts, which is not an easy task. First, the lexical items included in the text should be relevant to the students' field of specialization in order to satisfy their needs. Second, teachers must use items (lexical and grammatical) which are frequent in the register considered. In short, selection is required in teaching since :

"...it is impossible to teach the whole of a field of knowledge, we are forced to select the part of it we wish to teach".  
(Mackey, 1965, p.157).

#### b - Text Presentation

The presentation of a text in the teaching process is recommended because it helps students understand the given text and attracts their attention. Pre-reading questions enable students to grasp the main idea of the text and understand the topic. Moreover, this activity leads them to make predictions about the text as stated by Mac Donough (1984). Mackey explains the usefulness of presentation in the teaching process and asserts that :

"Getting the language into the minds of the learners depends on the technique of presentation peculiar to the method."  
(Ibid p.228)

This means that the learner best acquires the language when the technique of presentation is consistent with the method.

(ii) A Sample Lesson

Planning a lesson is a necessary undertaking in the teacher's task since it suggests different steps for the lesson and enables the teacher to achieve his/her aim :

"The preparation of a lesson plan is probably the most important of a teacher's professional work. A lesson plan does not only guide the teacher's activities in class, but it also gives the teacher a sense of direction in the course and helps him to attain, bit by bit, the broader, more general aim of the whole course".  
(Nasr, 1972, p.139)

This assertion shows the usefulness of a lesson plan in the teaching process. In addition, the lesson dictates the different activities to undertake in order to reach the general aim of the course progressively.

The sample lesson proposed hereafter will cover a series of activities for the sake of overcoming the learners' weaknesses, catering for their needs and attaining their objectives. The rationale behind such activities is to permit the concerned students to understand the topic, to develop their listening, reading and speaking skills, to arouse their motivation and encourage them to make predictions. Lexical and grammatical exercises are also included in this lesson for linguistic reinforcement. Hence, the pre-question stage will consist of a set of questions relevant to the given text in order to acquaint the learners with the new vocabulary and the topic.

One has to mention that the proposed text is not authentic and is recommended at the early stage of the English course for linguistic consolidation. In other words, the researcher advises such a text when the group of learners is heterogenous as far as the target language is concerned. Once the learners reach a homogeneous level of proficiency in English, complicated and authentic texts can be used.

The reading of the text (first by the teacher and next by the learners) will be the second step of this lesson. They are required to read aloud a few lines from the text since reading aloud is a good means to better pronunciation (Dobson, 1980). Crystal (1987) terms reading as 'reading by ear' which is an important activity during the primary stages of language learning. According to the researcher, reading aloud is a good practice for below-average and even average students. The prominent position that reading occupies is due to the fact that it constitutes the outset of a lesson which allows the learners to develop other skills.

The third step of the proposed lesson will deal with a range of questions related to the text. This step enables the learners to develop reading comprehension. In view of this, the writer will offer two different exercises, i.e. comprehension check exercise and completion exercise. The aim behind these exercises is to allow the teacher to check the students' understanding of the given text.

The fourth step involves vocabulary building. The reading of new texts enables the target population to enrich its vocabulary. One can say that vocabulary and reading are closely related since a text contains a range of words which are inherent to its comprehension. For this purpose, the writer will present two different exercises which involve the suffix and synonymic relationship.

The fifth step of this lesson will cope with grammar for linguistic consolidation. Indeed, as the target learners need remedial work mainly at the syntactic level, the proposed exercise will enable them to learn 'the passive voice' which can be tackled, not only, in a general English course but also and mainly in an ESP one. It has been reported that the passive voice and more specifically 'the impersonal passive is very common in scientific writing' (Allen and Widdowson, 1974). In scientific texts, it often occurs that 'by' plus the 'agent' are omitted since a scientist is more interested in the action than in the doer, as in the following example : the liquid is cooled. Therefore, the main structure of this lesson will be the passive voice.

The last step of this unit will again involve a communicative activity. In view of this, extra questions are posed concerning the organization of the text, in order to reinforce comprehension on the one hand and develop thinking on the other. Hence, with this sample lesson, the writer will attempt to develop all the skills with a special emphasis on reading and speaking since they represent the first and second priority skills (see chap. three).



a) The Text

Everything about us is made from something. That something is matter. Matter is composed of different substances, which may be elements, compounds or mixtures.

Element : a substance whose atoms are all the same (e.g. oxygen, sulphur, copper, carbon).

Compound : a substance composed of more than one element; these elements cannot be separated by physical methods (e.g. water, carbon, dioxide, calcium carbonate).

Mixture : two or more substances that can be separated by physical methods (e.g. air, wine). Substances exist in one or three physical states. A substance can be a solid, a liquid or a gas.

Solid : a solid has a definite size and a definite shape. The shape may be changed when force is applied.

Liquid : a liquid has a definite size, but no definite shape. It changes its shape to fit the shape of its container.

Gas : A gas changes both its size and shape to fit its container.

Gases always spread out to occupy all the space available to them.

**Taken from :**

Source 1 : Walker, R. 1988, p.17

——— 2 : Ramsden, E.N, 1980/87, p.7

**b) Exercises and Activities**

**1) Pre-Questions**

- a - Define in your own words the following terms :  
element, compound and mixture.
- b - What do you understand by these words : solid, liquid  
and gas?
- c - Where do substances exist ?

**2) Comprehension Check**

- a- Can a substance be a solid, a liquid or a gas?
- b - Are there any differences between the three states  
of matter?
- c- Say which of these titles suits the text.

- The physical states of matter
- The nature of matter
- The chemical states of matter

**3) Completion Exercise**

Complete the following statements using information  
from the text.

- a- Matter is composed of different.....
- b- Substances..... in one or three  
physical states.
- c- Solid has a ..... size and a .....  
shape.

#### 4) Vocabulary building

##### I) Word-Formation

Select the appropriate suffix (er-ion-ment-ence-ity) to make the corresponding noun.

<u>Verb</u>	<u>Noun</u>
arrange	.....
contain	.....
separate	.....
differ	.....
equal	.....

##### II) Synonymic Relationship

Find the words in column 2 which match the words in column 1.

##### Column 1

- 1-fit
- 2-compose
- 3-same
- 4-separate
- 5-exist

##### Column 2

- a- identical
- b- suit
- c- make up
- d- be
- e- split

#### 5) Structure Study

In the text, the main structure is the passive voice. This voice is either used with modals or prepositional phrases. Its often happens that 'by' + the 'agent' are omitted.

Write down the passive of the following active sentences.

a- We apply force.

.....

b- Physical methods can separate two or more substances.

.....

c- We may change the shape

.....

d- Different substances compose matter

.....

**6) Organization of the Text**

a- what is the introductory sentence of the text ?

b- what is matter composed of ?

c- what do gases always do ?

**5.2.4. Reading skills**

Any learner needs to practise intensive reading which means studying a text fully in order to understand it. As opposed to this type of reading, extensive reading involves the reading one does outside the classroom when he/she reads plenty of books. As far as the target learners are concerned, reading is not only one of the objectives for English study but also considered as the priority skill (see questions eight and twenty one in chap. three). These students require English for references since nearly all their documentation is written through the medium of English. Hence, when learning the target languages, it becomes necessary, not to say vital, to acquire reading competence.

Many applied linguists namely Widdowson (1979), Moore et al (1980), Kennedy and Bolitho(1984) claim that reading has

a purpose. Regarding the target learners, their purpose in reading is to get information from the text. The teacher who knows their purpose, can develop a syllabus accordingly and strongly recommends reading aloud and intensive reading to beginners and even intermediate students. Moreover, the achievement of reading can be done through other sub-skills as follows (Laroque 1985):

-**scanning** which is defined as the quick search for a particular piece of information in a given text.

-**skimming** which is perusing a text, picking out bits and pieces here and there to be able to get the gist.

-**reading for deeper comprehension or in depth reading** is a much closer examination of a text to get a great deal of information and, so, to build a quite complete understanding of it.

Among these three sub-skills, the last one seems the most appropriate to the target population since it allows it to glean information conducive to a better and deeper understanding of the text. The two first skills are rather used in advanced stages where the learner is only interested in the main idea of the text.

In sum, of all the listed skills in reading, chemistry students are rather concerned with, first, reading aloud at the initial stages, second, reading for deeper comprehension or in-depth reading. Intensive reading is recommended to become fluent. Once the target learners master the techniques of

reading, they can practise scanning, skimming and silent reading.

#### 5.2.5 The Learner

In language learning/teaching process, the learner is the first element involved. As Strevens (1980) rightly claims, 'success can be regarded as positive achievement'. He further gives good reasons for success. First and foremost, learners should be willing to learn. Second, they should be aware of and agree with the reasons for learning the target language. Third, the establishment of realistic aims should highly improve the learning. Next, appropriate syllabuses are recommended to attract the learners' attention. Besides, as seen previously (chap. three) learner-centredness is recommended to arouse the learners' motivation. In sum, all these positive reasons can guarantee success in language learning.

##### (i) Linguistic Problems

To overcome the linguistic problems (language interferences) the Algerian chemistry students encounter, the teaching of Arabic and French should be reinforced. In other words, linguistic problems could be alleviated thanks to a better knowledge of French and Arabic. On the other hand, a description of English is necessary to determine the existing problems the learners may encounter. This description will enable the language teacher to identify the areas of interference. For this purpose, contrastive and error analyses are useful to show the similarities and dissimilarities between Arabic and French and the target language, on the one hand,

detect and analyse linguistic errors on the other. The identification of linguistic problems may also help the language teacher construct a syllabus and provide materials accordingly. Remedial work is necessary to achieve the learning process. It is in this sense that contrastive and error analyses have been undertaken in the previous chapter. Finally, the consolidation of the target language could be achieved first, through the mastery of the four primary skills and next, thanks to a better learning of syntax, lexis and phonetics. It is what the writer has attempted to perform in the sample lesson to enable the learners to acquire linguistic as well as communicative competence.

#### (ii) The Process of Learning

Everything we achieve in life requires learning or acquisition. In other words, we have to be taught how to get something done. It is in this sense that the following quotation goes :

" Give a man a fish and you feed him for a day. Teach a man how to fish and you feed him for a lifetime'.  
(Chinese proverb in Hutchinson and Waters, 1987, p.39)

With regard to language learning, it has been acknowledged that it is a complex process therefore its complexity should be taken into account so as to devise lessons which may, not only, help the learner achieve his/her task but, also, consolidate it. It should be borne in mind that language

learning is cyclical and that the repetition of items at all levels is recommended for linguistic consolidation. Furthermore, the learner should comprehend what has been taught and be capable of practising items presented to him/her. For this purpose, it is the teacher's responsibility to set up lessons that can fulfill the learner's expectations as well as promote the success of learning.

#### 5.2.6 The ESP Teacher

Today, although the process of learning/teaching is more learner-centred, the teacher is an important element in the whole process. Thus, the teacher should feel responsible for the effectiveness of the course and the learners' success. In fact, he/she is engaged in a heavy task such as the design of a syllabus, the provision of materials and the adoption of a method. Besides, his/her task is to cater for the learners' needs either they are academic or occupational.

However, the ESP teacher has not been trained as such and, thus, blunders on the dark because of the ignorance of the subject and the lack of training in the specific field of study. How can the ESP teacher achieve his/her delicate duty if he/she is rather an arts-teacher? The two following parts, respectively, the training of the ESP teacher and the collaboration between the ESP teacher and the subject specialist could be an answer to this question.



### (i) The Training of the ESP Teacher

There is a general agreement that nearly all the ESP teachers' background is literary and they have received no previous training in ESP. Therefore, it stands to reason to consider the ESP teacher as 'a stranger in a strange land' (Exodus in Hutchinson and Waters, 1987). In short, the ESP teacher is a layman. This involves, not only, the researcher but also the majority of ESP teachers at the university of Annaba and even elsewhere in the Algerian university. To feel like a fully-fledged teacher, the ESP teacher should experience pre-service and in-service training.

Pre-service training occurs before the person holds a teaching post and includes three important elements namely content courses, demonstrations and observations of lessons, and the practice of the various methods. In other words, this training involves theory and practice. Content courses provide information about language learning/teaching methods. Demonstrations and observations of lessons should give trainees opportunities to observe teachers at work. The trainees should teach a class which is observed by a training teacher whose task is to evaluate the trainees' teaching.

On the other hand, in-service training takes place while the person is teaching and aims at improving the language skills. Trainees need to learn terminology related to specific areas namely English for sociology, economic sciences, chemistry, etc. They also need assistance and advice regarding the design of syllabuses, the provision of materials and the choice of methods. To sum up, guidance and assistance on the

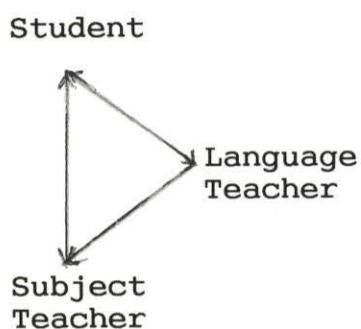
part of the training teachers are necessary to trainees to carry out teaching tasks and become fully-fledged teachers.

(ii) The Collaboration between the ESP teacher and the Subject Specialist

Some applied linguists namely Mc Donough (1984), Kennedy and Bolitho (1984) advice team-work since it :

"... is one answer to the problem inherent in 'the knowledge factor' and has become increasingly popular, particularly in EAP".  
(Mc Donough, 1984), p.102)

In fact, the twofold collaboration, i.e. the ESP teacher and the subject specialist can solve the problem of the language teacher's ignorance of the subject. Mc Donough furthur claims that the collaboration also involves the student. In view of this, she suggests the diagram below.



The Triangular Set-up in Physical Space

Source : Mc Donough, 1984, p.103

The researcher recommends Mc. Donough's idea to integrate the student in team-work since ESP teaching tends to focus on the learner (learner-centredness). The student's presence in team-work will help both teachers develop a syllabus satisfactorily since all his weaknesses, needs and objectives are taken into account.

In sum, the student is the key element in team-teaching and the benefit of such a team is to lead to a positive achievement. Being in direct contact with both types of teacher, the student will benefit from their respective savoir-faire and knowledge.

### (iii) The Teaching of ESP

A lot of positive factors (appropriate syllabuses and materials: identification of students' needs ; sufficient amount of years and hours for English instruction and adequate language teacher's training) can permit the ESP teaching to be efficient. Generally, the ESP teacher performs his/her task randomly and often without any outside help. Such an ESP teaching is not recommended because it is based on a vacuum and is a day-to-day experience with its share of trial and error.

One has to recall that there is a shift from teacher-centred to learner-centred instruction in the teaching of ESP, hence the learner must take part actively in the course. The teacher should then act as a guide, a supervisor. The movement from the teacher to the learner and vice-versa is recommended to create a vivid course :

"As far as classroom dynamics (i.e. the interrelationships between teacher and students) is concerned, it should not be a one-way process (teacher, student) but rather a balanced exchange between them".  
(Miliani, 1985, p.331)

One has to keep in mind that these learners are adults and should be treated with consideration. Hence, the teacher should avoid an unpleasant situation in adopting an over-corrective attitude even if the learners need a remedial treatment indeed. Finally, the teaching of ESP is improved if the following factors are taken into account :

- The time-tuition should be increased.
- The collaboration between the ESP teacher and the subject specialist should be established to design the syllabus and produce materials.
- The traditional approach, i.e. the structural approach should be replaced by the communicative approach.
- Eclecticism seems to be a more adequate way of proceeding in ESP teaching.
- Last but not least, the Ministry of Universities as well as the administration of the concerned institutes should take seriously the teaching of ESP and implement adequate measures.

### 5.3 Perspectives

Much remains to be done concerning the teaching of ESP and more specifically the teacher's training. For this purpose, the creation of a centre of ESP could alleviate the various problems of ESP teaching/learning. The development of programmes and the production of materials responsive to identified problems and stated needs, would be the main task of a research team.

#### 5.3.1 ESP Centre

There is no doubt that the birth of a centre of ESP could highly improve the ESP teaching and learning situation. Three centres of ESP were created in Oran, Algiers and Constantine where the teaching body is represented by Algerians specialized in applied linguistics and ESP. The learners (future postgraduate students in English-speaking countries) are required to sit for a final test labelled 'IELTS' (International English Language Testing Service) which will allow them to pursue their studies abroad.

The course aims at developing communicative competence. The emphasis is on study skills. The size of groups is from seven to twenty. The amount of hours of ESP instruction is intensive, i.e. 25 hours per week. Such an instruction may arouse students' enthusiasm and motivation. Therefore, it could be very beneficial for the university of Annaba and all Algerian universities to create a centre of ESP with a research unit.

### 5.3.2 A Research Unit

The concern of a research unit is to examine closely the teaching of ESP, to attempt to solve its problematic points if any, to suggest a programme relevant to each subject as well as some materials, to discuss some methods, to take the teacher's training seriously, test students and evaluate the effectiveness of the ESP courses. In view of this, it may be worthwhile to work in teams and have recourse to some specialists from different institutes for some needed advice on their speciality. As a matter of fact, it seems sensible to integrate subject specialists to perform this delicate task.

The first advice the reseacher gives is to work in a pleasant atmosphere in order to cultivate warm relations. It is, in fact, very important psychologically speaking. Next, the constant collaboration between the ESP teachers and the subject specialists should be recommended regarding the implementation of programmes, the writing of materials and the adoption of methods.

A team of some ESP and subject teachers is recommended to tackle the implementation of programmes. Another team can take charge of the production of materials. The next team will be responsible for the choice and the adoption of methods. Indeed, it would be better for the research unit to organize several teams which will be responsible for a specific task. The collaboration of the subject specialists in each task is strongly recommended in order to match the target language with the subject. In short, this collaboration would be

complementary and beneficial. Concerning the teachers' training and in-service training, the researcher suggests the ESP teachers who have really the intention to specialize in a specific subject to attend some lectures with the corresponding subject specialists in order to get some basic knowledge on the subject in question. As a matter of fact, once this language teacher can grasp the key elements of the subject, he/she will be more confident and willing to teach ESP.

(i) Methodology

The research unit should deal with methodology conducive to better results. As far as the implementation of a syllabus is concerned, both types of teachers should proceed step by step. The selection of texts is influenced by some variables. The progression of texts is recommended. For example, short and easy texts containing simple grammatical structures should be used at the early stages, Longer and more complicated texts are recommended as the learners progress through the units.

The adoption of eclecticism in ESP instruction is necessary since it permits the ESP teacher to choose what is good and reject what is bad. This is the reason why, there seems to be a general agreement that the methodology of ESP teaching is different from that of general English instruction. Finally, methodology is necessary to the organization and development of a syllabus.

(ii) Testing

Testing (students) as well as evaluation(of programmes) are important components in the history of language learning. It has been observed that testing is a purposeful activity. In fact tests are, not only, intended to measure learners' achievement but also to diagnose their linguistic problem areas.

The present day practice involves the assessment of students' linguistic competence. Nevertheless, the ESP learners and more specifically the target learners are more concerned with the development of communicative competence rather than just linguistic competence. In fact, in our case, communicative testing is more relevant in the sense that it assesses the learners' communicative competence.

Among the various types of testing, the researcher recommends to deal, first, with 'placement tests', next with 'achievement tests' (Hutchinson and Waters, 1987), which, respectively, occur before the threshold and after the completion of a course. The former type permits to know the learners level of proficiency whereas the latter type enables to measure the amount of learning. For the researcher, it is her belief to add 'diagnostic tests' (Van Els et al, 1984) since they aim at identifying the students' weaknesses.

In view of this, a series of testing procedures is at the teacher's disposal :

- comprehension questions
- true/false tests
- multiple choice exercises
- cloze tests



### (iii) Evaluation of Programmes

Likewise, evaluation is regarded as necessary because it, not only, reflects the learners' performance but also the effectiveness of the course. With regard to the researcher, she recommends the adoption of three phases of evaluation which, respectively, take place before the outset, throughout and after completion of the course. The aim behind these phases is, first, to dictate an adequate programme, next, to check the relevance of this programme and finally to measure its success. As a result, one can say that evaluation and testing are complementary.

### 5.4 Conclusion

This concluding chapter has attempted to bring some possible solutions to some of the problems listed in the previous chapter. For this purpose, a syllabus, materials and a method were suggested to better the target ESP situation. Besides, a sample lesson was designed to guide inexperienced ESP teacher. As the target learner and the ESP teacher come together within the educational system and are considered as key elements in the whole teaching/learning process, some recommendations concerning them were given. First, some tentative solutions were suggested to overcome the linguistic problems the target learners encounter and some advice were given regarding the process of learning. Next, some recommendations were also stated as regards the ESP teacher's training, the collaboration between the language teacher and

the subject specialist, and the teaching of ESP. Finally, some perspectives were drawn with reference to the future development of ESP at the university of Annaba.

## GENERAL CONCLUSION

The present study is based upon the identified English learning problems in the D.E.S. chemistry department at the university of Annaba and derives from the writer's personal experience as an ESP teacher in that department for many years. It must be noted that those problems are due to linguistic factors as well as non-linguistic ones.

Given the disadvantageous situation of ESP course in the named department, the writer has judged it useful to undertake a research for the sake of overcoming the present problems which probably exist nationwide.

For this purpose, a syllabus, a method , an approach and a tentative model lesson which might be relevant to the target situation, have been put forward. In addition to this, a number of recommendations and perspectives have been made with regard to the target situation (learners, teachers, teachers' training and courses).

It is hoped, therefore, that ESP teachers will find them useful and this study may help, to a certain extent, those who are likely to work in the same situation or under the same conditions.

It stands to reason that it is up to the Ministry of Universities to set up a national programme for ESP courses which should be taken seriously so as to eradicate

teaching/learning problems and arouse enthusiasm among chemistry students and ESP teachers alike.

Furthermore, it would save time if the Ministry could implement some measures concerning the teachers' training which is viewed as one of the major problems encountered.

Finally, conditions for success in the ESP teaching/learning could be achieved in the following way:

"Maximum rates of achievement in the learning and teaching of a foreign language are typically produced when skilled and devoted teachers are encouraged by society and their profession to cherish willing learners".  
(Strevens, 1980, p. 28)

Nevertheless, one must acknowledge that so far ESP instruction is still in infancy in Algeria and much needs to be done for its development.

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# APPENDICES

# **APPENDIX A**

## **OBJECTIVES OF ENGLISH INSTRUCTION AT THE MIDDLE AND SECONDARY LEVELS**

- Stage one : The middle level

The English course aims at enabling pupils to acquire basic structures with a minimum of vocabulary concerning daily life.

- Stage two : 1<sup>st</sup> and 2<sup>nd</sup> secondary years

The main concern of this course is to consolidate the language taught in stage one and use texts chosen on purpose to stimulate pupils' interest.

- Stage three : 3<sup>rd</sup> secondary year

At this level, pupils work with texts which best meet their future needs with respect to the field of study. Texts are, therefore, literary, scientific, commercial and the like.

Source : Ministère des Enseignements Primaire et Secondaire, 1973, p.13

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Stages one, two and three are my own translation from French into English.

# **APPENDIX B**

## **PROGRAMME OF THE LICENCE IN ENGLISH**



## PROGRAMME OF THE LICENCE IN ENGLISH

FIRST YEAR	NUMBER OF HOURS PER WEEK
<ul style="list-style-type: none"> <li>- Written Expression and Comprehension</li> <li>- Oral Expression and Comprehension</li> <li>- Grammar</li> <li>- Phonetics</li> <li>- Introduction to linguistics</li> <li>- Cultural Background</li> <li>- Arabic and Arab Literature</li> </ul>	<ul style="list-style-type: none"> <li>6 hrs</li> <li>4 hrs</li> <li>4 hrs</li> <li>2 hrs</li> <li>1 hr</li> <li>2 hrs</li> <li>3 hrs</li> </ul>
	TOTAL :22 Hours
SECOND YEAR	
<ul style="list-style-type: none"> <li>- General Linguistics</li> <li>- Oral Expression and Comprehension</li> <li>- Written Expression and Comprehension</li> <li>- Grammer</li> <li>- Phonetics</li> <li>- British Civilization</li> <li>- American Civilization</li> <li>- English Literature</li> <li>- American Literature</li> <li>- Arabic and Arab Literature</li> </ul>	<ul style="list-style-type: none"> <li>2 hrs</li> <li>3 hrs</li> <li>3 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>3 hrs</li> </ul>
	TOTAL :23 Hours

THIRD YEAR	NUMBER OF HOURS PER WEEK
<ul style="list-style-type: none"> <li>- Phonetics</li> <li>- Oral Expression and Comprehension</li> <li>- British Civilization</li> <li>- American Civilization</li> <li>- English Literature</li> <li>- Third-World Literature</li> <li>- American Literature</li> <li>- Linguistics</li> <li>- Arabic and Arab Literature</li> <li>- General Psychology</li> </ul>	<ul style="list-style-type: none"> <li>1 hr</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>2 hrs</li> </ul>
	TOTAL :19 Hours
FOURTH YEAR	
<ul style="list-style-type: none"> <li>- Seminar in Literature</li> <li>- Seminar in Civilization</li> <li>- Seminar in Linguistics</li> <li>- Didactics of Modern Foreign Languages</li> <li>- Educational Psychology</li> <li>- Training</li> </ul>	<ul style="list-style-type: none"> <li>3 hrs</li> <li>3 hrs</li> <li>3 hrs</li> <li>2 hrs</li> <li>2 hrs</li> <li>4 hrs</li> </ul>
	TOTAL :17 Hours

SOURCE : Ministry of Higher Education, Algiers, June 1984.

# **APPENDIX C**

## **STUDENTS' QUESTIONNAIRE**

## Dear Student

This questionnaire is a part of my research work for writing a Magister dissertation. Moreover, it is conducted to identify the problems that you encounter during English learning in your field of study.

Your contribution would be very beneficial for me. Your answers will be treated in strict confidence.

Thank you for your co-operation.

Yours sincerely.

Mrs B.ALI TATAR  
Magister student  
Institute od Foreign Languages  
Department of English  
University of ANNABA.

## QUESTIONNAIRE

- Instruction : Please use a tick (✓) where necessary.  
From time to time, you are required to explain your choice.
- 

1 - Sex

- male ( )
- female ( )

2 - Age

- 20 years old ( )
- between 20 and 24 ( )
- over 25 ( )

3 - Year of study

- 1 st year ( )
- 2 nd year ( )
- 3 rd year ( )
- 4 th year ( )

4 - Medium of instruction

- Arabic ( )
- French ( )
- Both ( )

5 - Which language did you study at the lycee ?

- English ( )
- German ( )
- Russian ( )
- Other (specify ( )  
.....

1 - Sexe

- masculin
- feminin

2 - Age

- 20 ans
- entre 20 et 24
- plus 25

3 - Année d'étude

- 1ere Année
- 2eme Année
- 3eme Année
- 4eme Année

4 - Langue d'études

- Arabe
- Français
- Les deux

5 - Quelle langue aviez-vous étudiée au lycée ?

- Anglais
- Allemand
- Russe
- Autre (préciser)  
.....

6 - How long have you been studying English ?

..... years

7 - How long have you stopped practising English ?

- 1 year ( )
- 2 years ( )
- 3 years ( )

8 - Why have you been learning English at the University ?

- because English is an international language ( )
- because I plan to go abroad ( )
- to read chemistry in English ( )
- for future post graduate studies ( )

9 - What is your level in English ?

- Advanced ( )
- Intermediate ( )
- Beginner ( )

10 - How large is your class ?

- 10 students ( )
- between 10 and 20 ( )
- between 20 and 30 ( )
- More, please specify ( )

.....

6 - Pendant combien d'années étudiez-vous l'Anglais ?

..... années

7 - Pendant combien d'années n'avez-vous pas pratiqué l'Anglais ?

- 1 année
- 2 années
- 3 années

8 - Pourquoi apprenez-vous l'Anglais à l'Université ?

- parce que l'Anglais est une langue internationale
- parce que je pense partir à l'étranger
- pour lire la chimie en Anglais
- pour une future post-graduation

9 - Quel est votre niveau en Anglais ?

- Avancé
- Moyen
- Débutant

10 - Nombre d'étudiants dans votre groupe ?

- 10 étudiants
- entre 10 et 20
- entre 20 et 30
- Plus, veuillez préciser

.....

11 - Is English important for you ?

- very important ( )
- important ( )
- not important ( )

11 - Est-ce que l'Anglais est important pour vous ?

- très important
- important
- not important

12 - Is it too late to learn English in the fourth year ?

- Yes ( )
- No ( )

12 - Est il trop tard pour apprendre l'Anglais en 4ème année ?

- Oui
- Non

If yes, justify your choice  
.....  
.....

Si oui, justifiez votre choix  
.....  
.....

13 - Is it necessary to learn English from the first year ?

- Yes ( )
- No ( )

13 - Est-il nécessaire d'apprendre l'Anglais dès la 1ère Année ?

- Oui
- Non

If Yes, justify your choice  
choix  
.....  
.....

Si oui, justifiez votre  
choix  
.....  
.....

14- The learning of English should be continuous

- Yes ( )
- No ( )

14-L'apprentissage de l'anglais doit être continu

- Oui
- Non

If yes, justify your choice  
.....  
.....

Si oui, justifiez votre choix  
.....  
.....

15 - I understand to a great extent my teacher's lectures

- Yes ( )
- No ( )

16 - I can read in English

- Yes ( )
- No ( )

If yes, what ?

.....  
.....

17 - How frequently do you read in English ?

- daily ( )
- sometimes ( )
- never ( )

18 - I speak English

- daily ( )
- sometimes ( )
- never ( )

19 - I listen to English

- daily ( )
- sometimes ( )
- never ( )

20 - I write in English

- daily ( )
- sometimes ( )
- never ( )

15 - Je comprends dans une mesure les cours de mon enseignant

- Oui
- Non

16 - Je sais lire en Anglais

- Oui
- Non

Si oui, quoi ?

.....  
.....

17 - Quelle est la fréquence de vos lectures en Anglais?

- quotidiennement
- de temps en temps
- jamais

18 - Je parle en Anglais

- quotidiennement
- de temps en temps
- jamais

19 - J'écoute en Anglais

- quotidiennement
- de temps en temps
- jamais

20 - J'écris en Anglais

- quotidiennement
- de temps en temps
- jamais



21 - What is the most important skill ?

(Put 1 for the most and 4 for the least, in order of importance)

- reading ( )
- listening ( )
- speaking ( )
- writing ( )

22 - Which difficulties did you encounter in English at the lycee ?

- in grammar ( )
- in vocabulary ( )
- in pronunciation ( )

23 - Which difficulties do you encounter now ?

- in grammar ( )
- in vocabulary ( )
- in pronunciation ( )

24 - The problems you encounter in English Learning are due to:

- the lack of an appropriate syllabus ( )
- the lack of adequate materials ( )
- the inexperience of teacher ( )

21-Quelle est la plus importante aptitude ?

(Mettre 1 pour la plus importante et 4 pour la moindre, par ordre d'importance)

- la lecture
- l'écoute
- le parler
- l'écriture

22 - Quelles étaient les difficultés rencontrées en Anglais au lycée ?

- en grammaire
- en vocabulaire
- en prononciation

23 - Quelles sont les difficultés rencontrées en ce moment ?

- en grammaire
- en vocabulaire
- en prononciation

24 - Les problemes que vous rencontrez dans l'apprentissage de l'Anglais sont dus :

- au manque de programme approprié
- au manque de matériel adéquat
- à l'inexpérience des enseignants

25 - How do you find English classes in your speciality?

- interesting ( )
- not bad ( )
- boring ( )

If boring, justify

.....  
.....

26 - Does French affect your learning of English ?

- Yes ( )
- No ( )

If yes, say to what extent  
mesure

.....  
.....

27 - Does Arabic affect your learning of English ?

- Yes ( )
- No ( )

If yes, say to what extent

.....  
.....

25 - Comment trouvez vous les cours d'anglais dans votre spécialité ?

- intéressants
- pas mal
- ennuyants

Si ennuyants,  
justifiez

.....  
.....

26 - Est-ce que le Français vous perturbe dans l'apprentissage de l'Anglais

- Oui
- Non

Si oui, dites dans quelle

.....  
.....

27 - Est-ce que l'Arabe vous perturbe dans l'apprentissage de l'Anglais ?

- Oui
- Non

Si oui, dites dans quelle mesure

.....  
.....

28 - The time allocated to the English course is :

- sufficient
- insufficient

If insufficient, what do you suggest ?

.....

.....

28 - Le temps alloué au cours d'Anglais est :

- suffisant
- insuffisant

Si insuffisant, que suggérez-vous ?

.....

.....

29 - How many years of English course in your speciality, do you suggest?

.....

29 - Que suggérez-vous quant au nombre d'années d'Anglais dans votre spécialité ?

.....

30 - What do you suggest about the syllabus, materials and method?

.....

.....

.....

30 - Que suggérez-vous au sujet du programme, du matériel et de la méthode ?

.....

.....

.....

31 - The collaboration of a subject teacher with the language teacher can improve English teaching?

- Yes ( )
- No ( )

31 - La collaboration d'un enseignant de spécialité avec l'enseignant de langue peut améliorer l'enseignement en Anglais?

- Oui
- Non

**THANK YOU**

**MERCI**

# **APPENDIX D**

## **TEACHERS' QUESTIONNAIRE**

Dear Colleague,

I am presently conducting a research to identify the problems of English learning in the department of chemistry (the D.E.S. 4 th year) at the university of ANNABA.

I would be very grateful if you could complete this questionnaire. Your answers will be treated with the strictest confidence.

Thank you for your co-operation.

Yours Sincerely

Mrs B. ALI TATAR  
Magister student  
Institute of foreign  
Languages  
Department of English  
University of Annaba

## QUESTIONNAIRE

**Instructions** : Please use a tick (✓) in the appropriate box(es) which best fit(s) your opinion. From time to time, you are required to justify your choice.

---

1 -**Sex**

- male ( )
- female ( )

2 -**Qualifications**

- Licence ( )
- Magister ( )
- Other .....

3 -**Your experience in teaching English:**

- Secondary school level: .....year(s)
- tertiary level: .....year(s)

-**Your experience in teaching ESP:**

- .....year(s)

5 -**Have you had any specialised training before teaching ESP?**

- Yes ( )
- No ( )

If Yes, please specify

.....  
.....

6 -In what year of tertiary studies is English introduced?

- 1 st year ( )
- 2 nd year ( )
- 3 rd year ( )
- 4 th year ( )

7 -The number of hours of English course per week is:

- one hour ( )
- two hours ( )
- more, please specify.....

8 -Is attendance at this course compulsory?

- Yes ( )
- No ( )

9 -How large are your classes?

- 10 students ( )
- between 10 and 20 ( )
- between 20 and 30 ( )
- more, please specify .....

10 -Do the students sit for a final examination in English?

- Yes ( )
- No ( )

11 -What is the level of the students?

- beginner ( )
- intermediate ( )
- advanced ( )

12 -Are they motivated?

- very ( )
- fairly ( )
- not at all ( )

13 -In which skill(s) are the students often weak?

- listening ( )
- speaking ( )
- reading ( )
- writing ( )

14 -What is the time allocated to each skill in a 2 hour session?

- listening ( )
- speaking ( )
- reading ( )
- writing ( )

15 -Which of the objectives stated below best meet the English learning?

- To study English as a part of the curriculum ( )
- To read and understand specialised documentation through English ( )
- To speak English ( )
- Other, please specify ( )

.....  
.....

16 -Is there any syllabus given by your department?

- Yes ( )
- No ( )

17 -If yes, is the given syllabus adequate to the students' level?

- Yes ( )
- No ( )

If no, please give reasons

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



18 -Is there any material produced by your department?

- Yes ( )
- No ( )

19 -If no, do you have to produce your own material?

- Yes ( )
- No ( )

If yes, please specify

.....

20 -Do you think that French impedes the learning of English?

- Yes ( )
- No ( )

If yes, please say how

.....

.....

.....

21 -Do you think that Arabic impedes the learning of English?

- Yes ( )
- No ( )

If yes, please say how

.....

.....

.....

22 -What is the most important problem you face in the teaching of English?

(Put 1 for the most and 7 for the least, in order of importance)

- Lack of a definite syllabus ( )
- Lack of an adequate material ( )
- Hours of English insufficient ( )
- Number of years insufficient ( )
- Negative attitude towards English learning ( )
- Lack of ESP training on the part of teachers ( )
- Lack of collaboration between the language teacher and the specialists ( )

23 -Do you consider the collaboration between the language teacher and the specialists as necessary?

- Yes ( )
- No ( )

If yes, please specify

.....

.....

.....

24 -Do you think one year of English instruction at the tertiary level is enough?

- Yes ( )
- No ( )

25 -What do you suggest about the number of years of English instruction?

- one year ( )
- two years ( )
- three years ( )
- four years ( )

26 -Is the time devoted to the English instruction per week sufficient?

- Yes ( )
- No ( )

If no, please give reasons

.....

.....

27 -What do you suggest about the number of hours per week of English instruction?

- one hour ( )
- two hours ( )
- more, please specify

28 -What do you suggest to remedy the various problems?

.....

.....

.....

29 -Do you have any remarks or suggestions you would like to add?

.....

.....

.....

---

Thank you

# **APPENDIX E**

## **ARABIC ALPHABET WITH PHONEMIC SYMBOLS**



# **APPENDIX F**

## **LIST OF FAMOUS CHEMISTS**

The researcher presented a list of famous chemists to a teacher of chemistry and asked him to mention the most important ones, chemistry students should know as well as language teachers.



## FAMOUS CHEMISTS

The list below (1) shows some of the famous chemists according to chronology.

- Robert Boyle (1627 - 91).

The Irishman Robert Boyle was the founder of modern chemistry. In his book "The Sceptical Chymist", he insisted on the use of scientific methods of experiment, observation and deduction.

- Antoine Lavoisier (1743 - 94).

This French scientist and reformer contributed vital information on the elements and distinguished between chemical and physical changes.

- John Dalton (1766 - 1844 ).

His great achievement was to prove the existence of the atom, the foundation stone of modern chemistry. He also worked on the behaviour of gases, helped to develop the new science of weather study, and proved that humans could be colour - blind.





- Dmitri Ivanovich Mendeléeov (1834-1907).

This Russian scientist published his periodical table in 1869.

- Antoine Becquerel (1852 - 1908)

In 1896, the French scientist discovered that some materials give out invisible rays - radioactivity.

- Sir Joseph John Thomson (1856 - 1940)

His brilliant experimental work led to the discovery of the electron. He also discovered that gases could be made to conduct electricity.

- Marie Curie (1867 - 1934)

The Polish scientist and her husband the French scientist, Pierre Curie, discovered radium. From this discovery, scientists were able to learn more about radioactivity.

- Lord Ernest Rutherford (1871 - 1937).

New Zealander Ernest Rutherford finally established the science of radioactivity. He revealed the structure of the atom and was the first to split it.

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(1) Adapted from Dictionary of Chemistry

Wertheim, J. et al. (1987, p. 113) London: Usborne Publishing Ltd