

**Probing ESP Teaching Context: Case of Biology Learners
at Ibn-khaldoun University, Tiaret, Algeria**

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Abstract: This study attempts to investigate the ESP teaching situation in the biology department of the University of Tiaret, where the absence of syllabuses, possibly essential for both educators and learners, was observed. In addition, the non-existence of these teaching documents has influenced the ESP teaching process and it is partly responsible for learners' low level in English language proficiency. In this light, this study aims at designing an ESP syllabus and hopefully improving the quality of teaching for this research context. A students' needs analysis questionnaire, and an interview with teachers were employed to collect data about the students' objectives, wants, preferences, as well the materials to be adopted for the teaching and the learning of the content of the syllabus. Ultimately and on the basis of this enquiry, a standard ESP syllabus was devised for this research population.

Keywords: Biology learners, ESP, ESP teaching, Syllabus Design,

المخلص: تتطرق هذه الدراسة إلى دراسة حال تعليمية اللغة الإنجليزية المتخصصة (ESP) في أقسام البيولوجيا لجامعة تيارت حيث لاحظنا الغياب التام لوجود أي منهج دراسي بحت لهذه الفئة. نهدف من خلال هذا البحث إلى تصميم منهج دراسي لتعليمية اللغة الإنجليزية المتخصصة (ESP) يتماشى مع احتياجات طلبة البيولوجيا و يهدف هذا البحث أيضا الى تحسين تعليمية هذه الاخيرة و كذا مساعدة أساتذة تعليمية اللغة الإنجليزية المتخصصة في إنشاء مناهجهم الدراسية. يعد هذا البحث مصدر يوضح و يشرح مراحل تصميم المناهج الدراسية في تعليمية اللغة الإنجليزية المتخصصة (ESP) حيث تم التطرق إلى كل من الجانب النظري و التطبيقي و الأدوات المستخدمة لجمع المعلومات من أجل تصميم هذا المنهج.

الكلمات المفتاحية: طلبة البيولوجيا, اللغة الإنجليزية المتخصصة, تعليمية اللغة الإنجليزية المتخصصة, تصميم منهج دراسي.

1. Introduction

It is widely recognized that science development has made English an indispensable international language in different domains such like commerce, medicine, economics, and engineering. Moreover, the growing demand among people to learn English has urged a large number of international educational institutions to introduce English into their teaching curricula so that to equip students with a working knowledge of English. One distinguishable form of English teaching that marks these English syllabuses is the teaching of English courses for groups of learners with specific needs-namely the teaching of English for Specific Purposes (ESP).

Since the advent of needs analysis in the 1970s, ESP has started to evolve and spread throughout the world (Richards & Rodgers, 2014). Like many countries in Africa, Algeria has introduced ESP to higher education curricula as a compulsory module to enable learners have access to scientific and technological knowledge that is published daily in English. In fact, globalization and the arrival of international companies to Algeria expanded the need to implement specialised language teaching programmes to support the growing number of learners who seek to acquire English that is tailored to specific job markets.

The specific English language needs of the Algerian students at higher education have received considerable attention among Algerian scholars and teachers (Mebtil, 2012; Boudresa, 2018; Bouroumi, 2017). However, only few research works investigate the issue of ESP syllabuses in Algerian higher education (Bouزيد, 2012; Saraa, 2020). Besides, the review of the Algerian biology ESP syllabus at higher education shows that this document commonly referred to as Canvas is very poor in terms of content specification, methodological guidance, teaching materials, and assessment procedures. Only very superficial content that specifies the teaching goals and some references in biology are provided for teachers to be implemented.

On the basis of the above background that highlights the meagerness of the ESP syllabus for biology classes at the Algerian universities and on the basis of the review of the previous studies that show lack of studies that deal with the biology ESP syllabus in the Algerian context, this study attempts to explore a more adequate and context sensitive syllabus for the ESP biology university classes of the university of Tiaret. Consequently, this enquiry suggests the following research questions

1. What are the objectives of teaching ESP at the biology department of the University of Tiaret?
2. What are the teachers' attitudes towards the absence of official ESP teaching syllabuses at the biology department of the University of Tiaret?
3. What are the needs of the ESP learners at the biology department of the University of Tiaret?

Considering the importance of syllabuses, this research raises the issue of the absence of this necessary document at the biology department of the University of Tiaret, and it hypothesizes that its absence is one among the many obstacles of teaching ESP at the biology department of the University of Tiaret. Further, this paper explores the possibility of devising an ESP syllabus that suits learners' expectations and needs in the same aforementioned context.

1.1. Curriculum and syllabus .Due to the conflicting views of the notions curriculum and syllabus in language programme development, it is first essential to provide an overview of the two terms from the view point of the existing literature. Allen (1984:61) as quoted in Nunan (1988) reports that "curriculum is a very general concept which involves consideration of the whole complex of philosophical, social and administrative

factors...Syllabus, on the other hand, refers to that subpart of curriculum which is concerned with the a specification of what units will be taught''(p.6). In a different way, syllabus is viewed as a sub-part of curriculum that deals with the teaching units. Rogers (1989), as cited in Richards (2001), draws a distinction between syllabus design and curriculum design, saying that the former prescribes the content to be covered in a given course whereas the latter has a far broader concept including "learner considerations, knowledge considerations, and instructions considerations". Print (1993) also makes a distinction between syllabus and curriculum. According to him, a syllabus entails a list of content knowledge including a number of objectives and learning activities to be assessed. Similarly, White (1998) sees that the term syllabus and curriculum are used interchangeably. Curriculum from the point view of White (1998) refers to the total content, methods and objectives of a programme of a school or an educational system while syllabus involves a particular presentation of content of an individual subject. The confusions over the distinction between curriculum and syllabus of a language programme is controversial. Allen (1984) proposes that curriculums are concerned with planning, implementation, evaluation, management, and administration of education programmes, but syllabuses deal with the selection and the grading of the content. However, Nunan (1988) claims that syllabus design reflects the what and the how. The what is concerned with the grading and the selection of content whereas the how studies the methodology or the way in which the content will be taught (p.6, 7).

Based on the differences outlined above, it can be said that syllabus is the description of what takes place inside the classroom including the content, the aims, and sometimes the teaching methodology while curriculum is referred to the rationale concept that involves the whole philosophical and social factors needed for the planning of an educational programme.

1.2. Definition of Syllabus Syllabuses are certainly necessary tools for every teacher in every educational teaching context he/she is found in. In other words, syllabuses are like the road map that describes what is to be learnt in the classroom and what is supposed to be achieved. Yalden (1987) states that

The syllabus is now seen as an instrument by which the teacher, with the help of the syllabus designer can achieve a certain coincidence between the needs and aims of the learners and the activities that will take place in the classroom (p.86).

Yalden (1987) contends the syllabus as a day-to-day document that assists teachers in the teaching/ learning process. Further, the syllabus, according to Yalden, includes the aims and the objectives and the language items to be explored in a given classroom to meet the needs of a group of learners. In the same line of thought, Nunan (1991) points out that a syllabus is "A statement of content which is used as the basis for planning courses of various kinds...The task of the syllabus designer is to select and grade this content"(p.2). In other words, the syllabus covers the courses in a given teaching/ learning situation. Likewise, Wilkins (1976) affirms that syllabuses "are specifications of the content of language teaching which have been submitted to some degree of structuring or ordering with the aim of making teaching and learning a more effective."(p.83-89). In the same regard, Breen (1987) states

Every syllabus is a particular representation of knowledge and capabilities. And this representation will be shaped by the designer's views concerning the nature of language, how

the language may be most appropriately taught or presented to learners, and how the language may be productively worked upon during learning.(p.83).

In a nutshell, syllabuses mean different things to different people. Stated differently, there exists no universally accepted definition for this term. However, it can be said that language syllabuses, in their broadest description, encompass how the language will be appropriately taught and at the same time reflect upon the linguistics components as well as the teaching materials needed in a particular context.

1.3. Syllabus Design in ESP. Generally speaking, syllabus design can be viewed as a productive and rich field of study. It is a pedagogic systematic exploration to decide what to teach and in what order. However, in English language teaching, the syllabus can be grouped into two particular types i.e syllabus design for English for Specific Purposes (ESP) courses and syllabus design for General English (GE) courses. In both versions, courses need to be well designed for successful attainment of the language. That is to say, courses in ESP or in language programmes normally depend on the planning that precedes it such as determining course needs, language level, the time allocated for the language course, methodology, materials, and testing. It is often recognized that a well planned structured courses are the product of a well designed syllabus. Following this idea, Munby (1984) states that syllabus design is essentially the specification of the content to be taught and it is organized in the form of a teaching syllabus of appropriate learning units. In the same line of thought, Maley (1984) is with the opinion that in language syllabus design important aspects must be determined such as needs analysis, goals-setting, content specification, methodology selection, and assessment. Thus, the language syllabus designer, no matter the type of the course, needs to take into consideration salient guidelines before forming the syllabus. Following Maley, Richard (2001) posits a model of a curriculum which could be adapted into language syllabus design programme development. The model proposed by Richard (2001) focuses on needs analysis, situational analysis, planning learning outcomes, course organisation, selecting and preparing teaching materials, providing for effective teaching and evaluation. He further claims that the relation between the aforementioned elements is cyclical.

From the above outlines, it can be noted that a good syllabus design generally begins with the identification of needs analysis, content specification, and units organization. In syllabus design, the prominent integral item, especially in ESP, is needs analysis. This latter (i.e needs analysis) in language teaching or in ESP is aimed to identify who the learners are, why they need to learn the language, how and what they need to learn.

Syllabus design is viewed as one aspect of language curriculum development procedures. However, in the field of ESP, Hucthinson &Waters (1987) argue that there are different types of ESP syllabuses that suit different learning situations. However and before moving on discussion of the procedures of syllabus design in ESP, it is very important to mention that in language teaching, there are many models to syllabus design such as Munby's (1978) model, Bell's (1981) model, Brown's (1995) model, Richard'(2001) model, and Nunan's (1988) model, and these models are commonly used in ESP teaching approach.

As far as this study is concerned, Brown's (1995) model is explored to show readers the procedures to syllabus design in language teaching programmes. Brown's (1995) model, as shown in Figure 1 below, suggests a systematic approach to language programme development which includes six interrelated components i.e. needs analysis, setting goals and objectives, language testing, developing materials, language teaching, and evaluation. These components are explained in what follows.

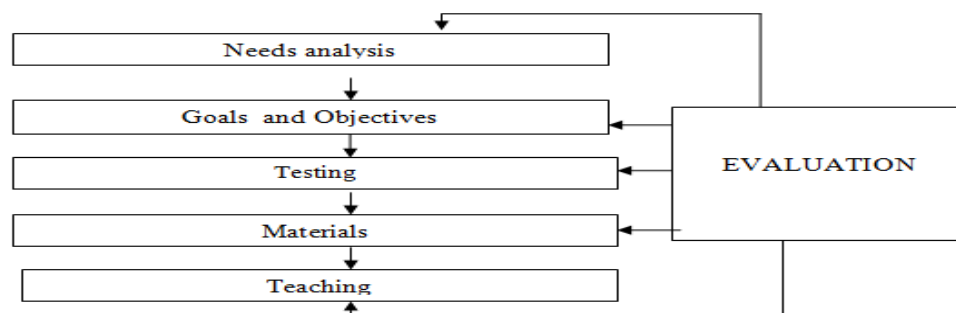


Figure 1: Brown syllabus design model.
Source: Adapted from Brow (1995,p.20)

1.3.1. Needs Analysis. Needs analysis includes the gathering of information from individuals or groups of individuals who are to learn a language. According to Brown (1995), needs analysis is carried out to identify the language form that students need in order to succeed in their courses and future careers.

1.3.2. Setting Goals and Objectives .Goals and objectives are important aspects in syllabus design development. They are identified from the outcomes of needs of a community or a group of students. Richard (2001) claims that goals are statements that a programme seeks to bring about in order to attain learners needs. Objectives, on the other hand, are precise statement of skills and content that students need to acquire.

1.3.3. Developing Language Testing. In order to evaluate the teaching/learning process and to determine whether the course objectives are running effectively or not, tests are used to provide valuable information to the lecturer so that he/she decides on carrying out the teaching syllabus or reconsidering some of its units.

1.3.4. Developing Materials. Materials are a reference source that helps teachers plan tasks, organize activities, and provide students with the language instruction and skills they need. In this model, materials are means to facilitate the learning of the language. They may take different forms: linguistic, visuals, auditory or kinesthetic as they can be presented in print, on cassette, on CD Room or the Internet (Tomlinson, 2003).

1.3.5. Language Teaching .Brown (1995) believes that for language curriculum development, teachers must be given more free practice to teach what they feel appropriate. Both teachers and students need to be completely aware of the objectives of the courses and the testing methods at the end of the course.

1.3.6. Evaluation. Evaluation is a complex component but it is an integral part of educational programmes. According to Lowton (1983), “Evaluation is essentially concerned with supplying information about the success or the failure of a teaching- learning situation” (p.90). In other words, evaluation may indicate the merits or the shortcomings of something such as courses, methods or curricula. It is viewed as an ongoing process for assessing how a programme of a particular institution is running out, and also can be utilized to develop objectives, writing and using tests, adapting and adopting materials, and teaching.

2. Methodology

2.1 The participants’ Profiles

2.1.1. Students’ Profile.To ensure the objective of this research and make fundamental decisions, the investigator believes that taking a large sample is sufficient to undertake the needs analysis questionnaire. Accordingly, 120 third-year degree students at the biology department of the University of Tiaret were selected to conduct this study. This selection was done on a quota basis of all the other existing levels (i.e post-graduate students) within the

same department. Besides, the purpose behind this selection was to collect in-depth information of the current ESP teaching / learning situation but most importantly students' language needs.

2.1.2 Teachers' Profile. Since the number of the ESP teachers working in the biology department of the University of Tiaret, only two teachers, was insufficient to conduct an interview with, the researcher decided to add a supplementary group of teachers working in the biology department of the neighboring Institute of Life and Natural Sciences in Kasr Challala found in the same town of Tiaret. Overall, 10 teachers with different qualifications and with different experiences were randomly selected to be interviewed. However, only 5 teachers accepted to sit for the interview. Information about the participants' profiles is illustrated in table 1 and in table 2 below.

Table 1 : Students' Gender

Option	Number of the students	Percentage
Males	35	29,16
Females	65	54,16
No answer	20	16,17

Table2 : Teachers' Profile

Teachers	Gender	Qualification	Teaching Experience	Speciality
T1	Female	Master	3 years	Linguistics
T2	Female	MCB	5 years	Linguistics and didactics
T3	Male	MCA	6 years	Linguistics
T4	Female	Master	2 years	Literature and Civilisation
T5	Female	Master	4 years	Applied linguistics and ESP

2.2. Research Design . As for the research design, an exploratory case study had been adopted as it goes hand in hand with the nature and purposes of this study. Additionally and to gather the required data for the designing of the syllabus, the researcher has used the mixed method approach. This latter (i.e mixed method) compiled two sorts of data: quantitative and qualitative data. The former deals with techniques expressed in forms of percentages, tables, charts, and mostly used to analyse closed and multiple choice questions presented in teachers' interview and students' questionnaire. The latter seeks to examine the words, the opinions, and the attitudes of the participants in a descriptive way and excluding any numerical or statistical data. The qualitative data are mostly obtained from teachers' interview.

2.3. Data Collection. The investigator had recourse to two research instruments: students' questionnaire and teachers' interview. These research tools are needs analysis instruments that will serve as the basis for the shaping of the syllabus such as identifying students' need, setting course goals and objectives, selecting the content, developing teaching materials, teaching methodology, and assesement.

2.3.1. Students' Questionnaire .The purpose of the students' questionnaire is to gather information about students' language needs, lacks, wants, and also their learning preferences and expectations. These needs can be used to decide on the language components that need more focus in the syllabus and also to decide on the topics that students would like to be exposed to. Another important thing to be mentioned is that the drawing of the questionnaire from content and questions were inspired from the rich published NA (i.e needs analysis)

documents in (Hutchinson&Wtares,1987 ; Nunan ,1999, Munby,1978; Brown, 1995; Basturkman;2005; Robinson, 1991; Dudley Evans& St john, 1998).

2.3.2. The Teachers' Interview. In fact, the teachers interviewing helped the researcher gather various views concerning teachers' experiences, qualification, teaching experience, and their satisfaction or dissatisfaction with the current ESP teaching conditions. Moreover, the interviewing assisted the researcher with a number of views about the scientific discourse, the content of the discipline, and the nature of language and the language learning skills that students need to master. The interview, with teachers, was conducted face- to- face by using note -taking and tape recorder. However, not all the teachers accepted to be recorded.

3. Results Analysis. In this research, we opted for a descriptive analysis of the collected data of research instruments.

3.1 The questionnaire Question1: what is your level in English ? As it is shown in the Figure 2 below , results indicated that few number of the informants (10%) ranked themselves as beginners level students, while significant number (90%) of them reported that they have an intermediate to upper-intermediate level. Hence, it can be argued that students concede differences in language proficiency and this is probably due to their linguistics background during secondary and middle schools.

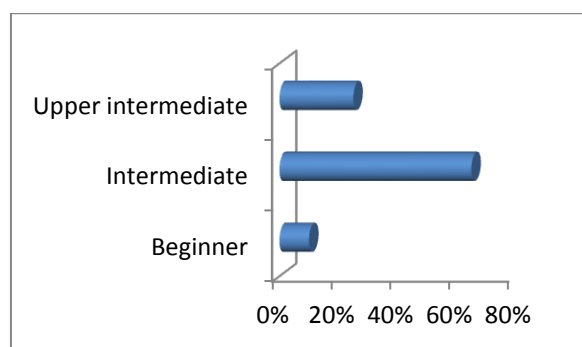


Figure 2: Students' Level of Proficiency in English Language

Question 2: do you think it is important to learn English ?

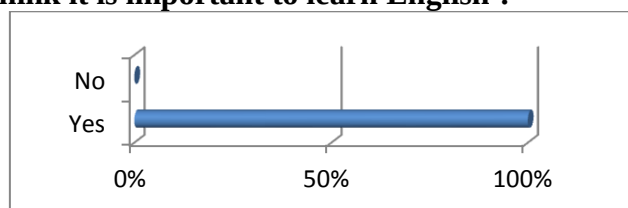


Figure 3: The Importance of English Language

The majority of the students (97%), as shown in Figure 3 above, agree that English is fundamental in education in general but into their field in particular. They reported that the mastery of English is a pre-requisite to be in tune with the vast published articles and scientific research. Moreover, learners commonly believe that English is the vehicle chain to communicate with foreigners in multinational companies, thus it is more than necessary to learn English in its spoken and written forms. It can be argued that the participant learners admit the importance of English as they seem aware of the academic and the professional needs of English in their field.

Question3: why do you need to learn English ? In reference to the students' main purposes of learning English, results showed that (80%) of the participants state that they need to learn English to achieve academic purposes while only (20%) of them report that they need English to accomplish professional purposes.

3.2. Interpretation of the results of questions 4,5, 6, and 7 .The results showed that the vast majority of the students participant with (84, 34%) were not satisfied with the current ESP courses at the department of biology. This was explained by that fact that the courses does fit with their needs in English. Students claimed having varying levels of English language proficiency, and the content as well as the teaching methodology do not go in line with their preferences and learning styles. Likewise, the student participant pointed out that the content do not fully match with their field of specialism. As far as the topics preferably to be included in the syllabus , the students suggest plethora of subjects by all of which relate to their field of study. Among these topics are: introduction to the physiology of plants, plants in human nutrition, using plants in medical therapy, genetics in plants.

3.3. Interpretations of the results of questions 8, 9 and 10. In order to develop a successful syllabus, the researcher finds it necessary to determine the students language ability and students' language problems as well. Thus, results of the questions in this area showed that the research participants express weaknesses in the four language skills. However, the lion's share with (75%) of students' responses claim having difficulties in speaking skills, and (70%) of them express constraints in writing skills. While (80%) and (95%) of them respectively state that they have an acceptable language proficiency in listening as well as reading skills. In addition, the participants highlight other difficulties in grammar, vocabulary and pronunciation. The major needs that the students participants are summarized in the following table

Table 3 : Major Findings of the Students' Needs Analysis Questionnaire

Linguistic and Learning needs	
Language needs and learning purposes	
- Students need English for both academic and professional purposes. - Students want to participate and take part in national and international conferences. - Students need read and write scientific papers. - Students need explore books related to their field of study. - Students need English to carry out their study abroad . - Students want to communicate with foreign interlocutors in other research laboratories. - Students need English for job-opportunities abroad..	
Language problems	
- Students have problems with speaking skills. - Psychological problems such as feeling shy to speak in public or being afraid of making mistakes. - Language interference(from French to English). - Lack of general English vocabulary. - Problems with pronunciation. - Problems with writing skills. - Problems with grammar(tenses, subject verbs agreement, active / passive forms, use of adjectives and adverbs, direct indirect speech, participals, gerund)	
Attitudes towards the ESP course	
- Students are not satisfied with current teaching methodology - Students find that the teaching approach is not motivating. - The lack of the use of the ICT teaching materials - The time allotted is not sufficient	
Learning preference and learning styles	
Students want to - Learn by using real life tasks. - Learn through science content of their field. - Learn through tasks, videos, pictures or games. - Learn in pair or in small groups.	

Analysing the students linguistic needs i.e (wants, lacks, difficulties, abilities) and their learning needs i.e (learning preferences, learning styles) as well their attitudes is crucial for the designing of the innovative ESP syllabus. Table 3 above highlights the major needs of biology learners. Analysis shows that students want to develop English that is used for academic and professional purposes. The academic purposes involved their need to maximize their chance for perusing advanced study that enables them to read and write scientific papers as well as attend and give oral presentations in conferences but also explore the scientific research work and books related to their field that in turn are written in English. As far as the professional purposes, the participants want to learn English to communicate with foreign interlocutors or for work opportunities abroad.

In order to develop an effective syllabus, the researcher finds it necessary to determine the students' language ability and students' language problems as well. Results of the questions in this area showed that the research participants express weaknesses in the four language skills but mostly in the speaking and in the writing skills. In addition, participants demonstrate other difficulties mainly in grammar, vocabulary and pronunciation.

As far as students' attitudes towards the current ESP courses in relation to certain aspects such as the content, the teaching methodology, the teaching approach, the materials use, results show dissatisfaction among the students regarding their ESP teaching/learning situation.

4.2 The Teachers' Interview. Due to the lack of language teachers at the biology department, the investigator added other language teachers from the neighboring Institute of Life and Natural Science in Kasr Challala found in the same town of Tiaret. The interviewing assisted the researcher with a number of views about the scientific discourse, the content of the discipline, and the nature of language and the language learning skills that students need to master. The interview, with teachers, was conducted face to face by using note taking and tape recorder. However, not all the teachers accepted to be recorded.

4.2.1 Section B

Question 1: what are the objectives of teaching ESP at the biology department of the Univeristy of Tiaret? . This question aims to provide information about the ESP teaching objectives at the biological departments. In this vein, the interviewed teachers believe that the ESP courses are included in the biology curricula to equip students with the communicative skills as well as academic and professional language kills students need in their field. T3 and T1 are with the opinion that biologists are motivated peruse certain goals either in academic or in professional area ; therefore, the mastery of English is more than a must. Sharing this same opinion, T4 argued that “ *Science development has made of English a needed language, thus the inclusion of the ESP courses are for the purpose to prepare students with a working knowledge tailored to their specific needs*”. Additionally, T2 claimed that students at the biology department need to develop specific terminology related to their context and all the four language skill as well as other functional skills in science such as the ability to describe, to hypothesize, to report, to analyse and so on.

Question 9: do you think that it is necessary to equip ESP teachers with ESP syllabuses?

As far as this question is concerned, the interviewee teachers agree that syllabuses are valuable and essential tools at any educational system and so do in ESP. In this regard, T2 stated that “*Syllabuses are instructive tools employed to identify what to teach and in what order. Many ESP teachers have little background of the subject matter besides most of them meet difficulties while preparing the courses, I believe equipping them with syllabuses may alleviate ESP teachers' burden*”. On the other hand, T3 reported that syllabuses serve as a

contract between the teacher and the learner, he claimed that ‘*I think that a successful semester begins when both teachers and learners are provided with a detailed syllabuses that describes accurately what is expected to be reached. Unfortunately, the question of ESP syllabuses in higher education remains unresolved issue*’. In a similar vein, T5 claims that ESP Syllabuses are crucial documents as they describes the content and the methodology, thereby providing teachers with syllabuses will improve the quality of teaching. The majority of teachers agree on the fact that syllabuses lay out to convey the expectations of the overall objectives ESP teaching/learning and thus handing out teachers with this document is more than important.

Question 10: In your opinion, do you think that the absence of ESP syllabuses affect the current ESP teaching learning situation? Explain please....

The results to this question reveal convergent answers, ESP teachers (T1,T4,) posit that the absence of syllabuses at the level of their department is a real hindrance, whereas others (T2,T3) state that the absence of syllabuses is not only putting teachers into dilemma but also in front a list of enquiries such as how to select the content, how to set goals and objectives, how to select the teaching materials, how to assess students and so forth. Besides, T2 and T3 say that they have never received a specialized training in ESP, and they have never been given any clear programme, a teaching methodology, or teaching aids that may help them later in designing their syllabuses. T5 claims “*I teach third year students who have different specialties, thus designing an ESP syllabus for each specialty is time consuming it requires having solid background knowledge of each specialty*”. All in all, teachers agree on the fact that the absence of ESP syllabuses have a side effect on the quality of teaching and thus its disadvantage is considerable, they also express negative attitude, the lack of syllabus prevents teachers from reaching the working knowledge needed by their students and it prohibits them from achieving the objectives and the goals of the courses.

5. Discussion of the Results

Results show a total agreement among teachers of the necessity to having an official ESP syllabus. Additionally, teachers expressed negative attitudes towards the absence of this crucial document at the biology department of the University of Tiaret claiming that its absence is a real hindrance because it affects the overall ESP teaching learning processes, and prevents them from reaching the working knowledge needed by their students. In this line of thought, Wilkins (1976) maintains that syllabuses “are specifications of the content of language teaching which have been submitted to some degree of structuring or ordering with the aim of making teaching and learning a more effective.”(p.83-89). To reach factors associated with the designing of the ESP syllabus for this research context, teachers claim that the objectives to teaching ESP at the biology department is to equip learners with the language skills that is needed in their academic and future careers. Among these objectives is to help learners comprehend texts related to their field of specialism, explore specific jargon of their field, exploit the scientific documents written in English, write scientific articles, attend international conferences and take part in oral discussions. Graves (2000) argues that “stating your goals helps to bring into focus your visions and priorities for the course” (p.32).

It is not only the teachers who display a central role to the designing of the ESP syllabus, at this point, learners’ needs identification from wants, lacks, necessities and expectations is also needed. In this regard, Paradowski (2002) as cited in Yassi & Kaharuddin (2018) considers that the first step to every syllabus design should be needs analysis so that to obtain information about the learning situation and the purposes for which learners want to learn and determine what they want to achieve. As far as this study is concerned, results of

the students' needs analysis questionnaire denote that learners are quite keen and eager to learn English. Moreover, participants under investigation believe that English displays a prominent role in their field of specialism; they maintained that they need to learn English to achieve both academic and professional purposes. Conclusively, students express feeling of dissatisfaction with the current ESP teaching learning situation and they show low language proficiency especially in the productive skills i.e (speaking and writing). In fact, needs analysis is crucial component in ESP syllabus design. Needs analysis (NA) is regarded as fundamental element whilst carrying out any language course or before designing any curriculum language programme. In fact, many scholars and educators emphasized on the centrality of needs analysis in educational practices e.g(Munby 1978 ; Hutchinson & Waters 1987 ; Tarone& Yule 1989. Robinson 1991 ; West 1994, Jordan 1997 ; Dudely-Evans& St-john 1998).

6. Suggestions and Recommendations

6.1The Proposed Syllabus.In the view of the fact that third-year biology classes are of different specialties, we decided to choose one particular specialty (Genetic of plants) as the basis for developing the syllabus units. The innovative syllabus framework is carried out to select topics as well as tasks and also determine the instructional order in which these tasks will be presented in each course. Therefore and referring to the analysis of the needs of the students; the investigator opts for an integrated syllabus including two different types of syllabuses (i.e: task-based and functional syllabus). The selection of this integrated syllabus is organized based on the competencies learners are expected to master in relation to their specific context. Moreover, this syllabus has been systematically developed using some components of curriculum development proposed by Brown (1995). Figure 2 below illustrates the major procedures we carried out to design our ESP syllabus.

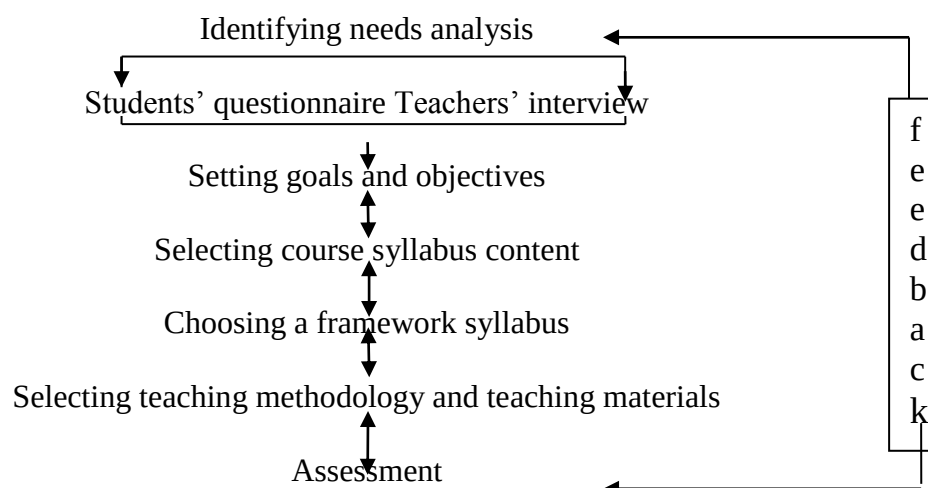


Figure 5: The ESP Syllabus Design Procedures

Source: The Author

We have also suggested an eclectic language teaching approach as it works with different learning styles and in varied contexts. Moreover, this syllabus attempts to introduce more specific tasks in which the investigator has taken into account the ESP learners choices and preferences of topics

In the design of the target syllabus, the researcher has also taken into consideration teachers' insightful guidelines with respect to some teaching techniques and content subject areas. In this innovative syllabus, students will be exposed to real-life tasks presented in audio

and video format with the hope that the students will understand what is being said, and with the aim of making them imitate, repeat or rephrase native speakers. In addition, the syllabus units include dialogues, short presentations, discussion groups which all are presented in the form of short talks either between teacher- students or student-student. The purpose of this strategy is to monitor their talks and develop their speaking skills.

Regarding reading and writing tasks, students will have intensive reading tasks such as the analysis of specialist journals, articles, texts from books in which they will be asked to skim language structures, scan vocabulary, extract specific meanings, and then write reports. In other words, reading is regarded as a precondition for writing ; that is say, when students read they will share knowledge and gain an understanding of particular language structures, writing styles, specific vocabulary, tenses, and punctuation.

6.2 Aims and Objectives of the Proposed Syllabus. The following list draws the aims and the objectives to be achieved

- Cover a set of grammatical items integrated within each unit.
- Develop students' speaking skills and raising their understanding of subject content in English.
- Use science skills such as the ability to describe, hypothesize, analyze, report , compare.
- Write specific reports about scientific topics.
- Provide a variety of materials that aim at developing students' language skills knowledge and science content.
- Use vocabulary related to their field.

6.3. Sample Units of the Proposed Syllabus

Table 4: Sample Units of the Proposed Syllabus

Units	Topics and unit content	Teaching aids	Language Focus	Language function
Unit 3	The topic: The Fundamental Unit of Life (cells) 1.Speaking -Describing a form. -Describing shape and size. -Listing external items. 2. Reading -Reading important facts and ideas. -Connecting important points. -Checking the meaning of words. 3.Writing -Describing structures and discussing their funtions. -Fill in the gaps.	pictures Visual aids Text	Vocabulary use Prefixes / suffixes Paragraph Building	Describing the cell structure Understanding scientific texts. Answering questions . Arguing ideas and making suggestions
Unit 4	Topic: Plant Tissues 1.Listening Listening to a video tape. Transfer of information. 2.Speaking Explaining the differences and the similarities between a plant and an animal cell functions. Comparing functions of cells. 3.Reading Reading and listing important facts. Discovering the meaning of words. Classifying ideas. 4.Writing Transforming sentences and checking verbs use. Reconstructing a paragraph taking into account the language function	Videos of cells that have similar functions A printed journal article	Listening practice - Using adjectives -Linking adverbs Active/Passive form	Following a conversation discussion Comparing and reporting ideas Recognizing different forms of writing

7. Conclusion

Syllabuses are fundamental tools in foreign language teaching classes, it is believed that the absence of this document may in a way or another affect the teaching/learning processes. Hence, this research study aims to resolve the problematic issue existing at the biological departments of the University of Tiaret and meet the ESP biology learners needs by the design of an ESP syllabus that goes in line with their needs, scientific context, as well as their language learning requirements and expectations in the hope that the innovative syllabus may improve the current ESP teaching and help teachers and students overcome the hurdles that they are encountering.

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Appendix One :Students' questionnaire

Dear students feel free to fill this questionnaire , you are asked to put a tick () on the right answer
(ESP refers to English for Specific Purposes)

Background information

The field of study (your specialty) :

Linguistics and learning needs

1.what is your level : Beginner ☐ intermediate ☐ upper intermediate ☐

2. Do you think it is necessary to learn English ? Yes ☐ No ☐

if yes explain why

3. why do you need to learn English ?

- For your post -graduation (Academic purposes) ☐
- For employment opportunities (Professional purposes) ☐

Others , please (specify)

4.Do you think the current ESP course satisfies your needs ? Yes ☐ No ☐

If ,No(specify).....

5.Do the course content topics match your interests and needs ? Yes ☐ No ☐

If ,No(specify).....

6.Suggest topics you would like to find in your courses ?

7.Classify the following skills according to your needs

Listening ☐ speaking ☐ reading ☐ writing ☐

8.: how do you describe your language in the following ?

	Poor	Good	Very Good
Listening			
Speaking			
Reading			
Writing			

9. what are your difficulties in English ?

10 .Use the following scales for the importance of science skills in your English course

1 : Very important ; 2 : important ; 3 : slightly important ; 4 : not important ;

Science skills	Very Important	Import ant	Slightly important	Not important
11.Describing a procedure of an experiment				
12.Interpreting results of a scientific investigation				
13.Making hypothesis of a scientific enquiry				
14.Using tables and diagrams and summarizing data				
15.Understanding charts and verbalizing numbers				
16.Giving instructions or directions				
17.Solving problems and puzzles of scientific tasks and formulating reports about them				

18.Do you like learning activities by using

Videos ☐ internet pictures ☐ CD / tape record ☐ computers ☐

19.How do you like learning activities

Individually ☐ in pairs ☐ in groups ☐

20.What are your preferences in teaching style ?

.....

21.Do you have any suggestions to improve your English language ?

Appendix Two

Teachers Interview

Personal Information

- 1.What is your degree ? Master ☐ Magister ☐ Doctorate ☐
- 2.What is your status ? Full time teacher ☐ Part time teacher ☐
- 3.What is your specialty ?
- 4.What is your experience in ESP ?.....
- 5.Did you have any professional training in ESP ? Yes , No
If yes , for how long ? where ?

Teachers 'attitudes towards the current ESP teaching/ learning situation

- 6.According to you what are the objectives of teaching ESP at the biology department of the University of Tiaret?
- 7.What are your learners needs in ESP ?
- 8..Does the Institute or the Department provide you with a specialized teaching programme ? and if yes does it cover your learners needs ?
- 9.Do you think it is necessary to equip teachers with ESP syllabuses ?
10. In your opinion, do you think that the absence of ESP syllabuses affect the current ESP teaching learning situation? Explain please.....
11. What piece of advice you would like to suggest to improve the teaching of ESP teaching at the biology department of the University of Tiaret ?.....
.....

Thank you for your collaboration