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**AN ESP COURSE DESIGN FOR POSTGRADUATE STUDENTS OF ENGINEERING  
AT BADJI MOKHTAR ANNABA UNIVERSITY**

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**ABSTRACT:** *This paper aims at designing a technical English course for postgraduate students of Engineering at Badji Mokhtar Annaba University. The course design is based on thorough needs analysis taking into consideration needs analysis concepts forwarded by Hutchinson and Waters (1987) and Dudley-Evans and St.Johns (1998). Through a pilot study, the postgraduate students of engineering at Badji Mokhtar Annaba university declared that they need to have courses in technical English in order to read and understand the newly updated researches in English, to take part in classroom discussions and to be able to write their own final doctoral project article without referring to experts for the translation from French into English. Thus English for Specific Purposes (ESP) course design is expected to be beneficial to the aforementioned group of learners. The needs analysis in this action research was conducted through the use of different tools. The results revealed that all postgraduate students of Engineering need to learn an ESP course for the development of the predominant skills of reading and writing first, followed by speaking and listening and translation as a fifth skill.*

**KEYWORDS:** ESP, academic needs, Technical English, course design, engineering students

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## **INTRODUCTION**

English for Specific Purposes (ESP) is considered as a new trend in English Language teaching. It is our belief that designing an appropriate course that suits target ESP learners will help them to be proficient in their field of study or work, though it is a very challenging task especially for new instructors. The need for ESP courses at the university level is of a paramount importance. Non-native English students need to develop their English skills in order to understand the language used in different specific contexts like vocabulary, styles, registers, specific formats and structures. Also, students need to be familiar with the new academic environment by developing their academic skills. Due to these reasons, Algerian universities should grant a great importance to the design of ESP courses for different departments such as department of Computer Sciences, department of Science and Technology, department of medicine...etc. and provide training to ESP teachers who need to be aware of developing courses that are learning-centered and help learners to meet their English Language needs. By following the principles of ESP literature review, this paper concentrates on the design of a technical English course which may develop English language productive and receptive skills for postgraduate students of engineering at Badji Mokhtar Annaba University to fulfill their language academic needs in their field of study.

### **Significance of the study**

The significance of this study originates from the fact that it would be the first attempt to design an ESP course for postgraduate students at the faculty of engineering in Annaba University. Therefore, the findings of the study would have more credibility and originality and shed light on the academic needs of the aforementioned students. In addition, the technical English course could be valuable for improving ESP teaching in the faculty of engineering.

### **Research questions:**

1. Can a technical English course be efficient for postgraduates to overcome their language issues and respond to their academic needs in their field of study?
2. What are the main academic skills to develop in the field of their study?
3. How to design a technical English course for engineering postgraduate students at the University of Badji Mokhtar Annaba?

### **Hypotheses**

1. A technical English course for postgraduate students of engineering at the University of Badji Mokhtar Annaba will be very effective for their studies and careers in the field of study.
2. Postgraduate students of Engineering need to develop their four language skills in addition to translation as a fifth skill.
3. Considering needs analysis as an important step to course design, selection of appropriate materials and organization of the course are essential elements that should be taken into consideration by any ESP teacher to design his course.

### **LITERATURE REVIEW**

According to Hutchinson and Waters (1987, p.19), ESP is an approach to language teaching in which the emphasis is on the reason behind the need to achieve English language proficiency and its academic skills. So, course designers should take into account their learners' language needs. Dudley-Evans and St.Johns (1998, p.121) added that the main stages in ESP are needs analysis, course design, material selection, teaching/learning and evaluation. Accordingly, ESP course design is the product of an active connection between all these correlated elements.

ESP is a field of study in English language teaching (ELT) that has some absolute and variable characteristics as proposed by Dudley-Evans and St.Johns (1998):

- a) Absolute characteristics:
  - ESP is designed to meet specific learning needs in a specific context.
  - ESP makes the relevant use of the specific methodology and tasks for the concerned field of study or work.
  - ESP focuses on the language specific and appropriate to the field, such as grammar, vocabulary, style, register...etc.

b) Variable characteristics:

- ESP is designed for particular discipline.
- ESP teaching methodology may differ from the one which is used in General English teaching
- ESP is mainly designed for intermediate and advanced learners as it can also be concerned with non-advanced learners since ESP course often provide basic language learning. Dudley-Evans and St.Johns (1998, p.4) .

### **Approaches to Course Design in ESP**

Course design is the process by which the instructors interpreted data about a learning need in order to produce joined sequences of teaching and learning skills. There are three main approaches to course design identified by Hutchinson and Waters (1987):

**Language-centered Approach:** it is the simplest and perhaps the most familiar to English language teachers. Its aim is to “draw as direct connection as possible between the analysis of the target situation and the content of ESP course” (1987, pp.65-66). In this approach, the content of the course is produced after the identification of the linguistic characteristics of the target situation. It focuses on performance.

**Skill-Centered Approach:** the aim, here, is to develop learners’ skills and competences in order to make them good processors of information. Emphasizing on competence, this approach is based on two fundamental principles: Theoretical and Pragmatic.

**Learning-Centered Approach:** The concept in this approach emphasizes on both learners and learning process. Hutchinson and waters (1987) claimed that it is all about learner’s competence i.e, it concentrates on the question “how someone acquires that competence” (p.73)

### **ESP vs. General English (GE)**

Widdowson (1981, p.89) assumed that the difference between ESP and GE is not related to the fact the “existence” of a need; it is rather the “awareness” of a need. Hutchinson and Waters (1992) argued that if teachers and learners are aware of the reason why learners need English, this will have an impact on what will be accepted as an efficient content in the language course and what would be achieved.

The main difference between ESP and GE can be summarized in five (05) points:

- 1.The purpose for learning: Harding (2007, p.6) declared that “**the sense of purpose gives the language work immediately and a relevance which is perhaps not always found in other sectors of ELT, particularly of the ‘General English’ variety.**”
- 2.The type of ESP learners: ESP learners are not generally motivated by courses of general English because they consider that language-based work would not fulfil their practical needs and expectations (Harding 2007, pp.8-9)
3. The age of the learners and the mastery of language: Learners in ESP are generally adults who have often reached a reasonable competence in all areas of the language.

4. The factor of time in ESP: It is introduced by Robinson (1980,p.9) in :

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

So, it is well understood that there is a distinction between long-term ongoing process of learning English and short-time periods in ESP.

5. Narrowing the language content: it means that the selection of skills is restricted in ESP course. Instructors should choose only the needed topics, themes and discourse.

### **Course Content Formation**

Teachers should consider some questions related to content in order to have an idea about what will be in the course and how will be organized; the course designer has to care about the appropriate selection of the reading texts, the related vocabulary that learners will focus on in their activities and the type of topics used in discussion activities as well.

### **ESP Course Material Selection**

Learners are the focus of any ESP instruction and learning. The syllabus is a statement of objectives and methods of learning, and since the main mission of the teacher is to help learners to learn and meet their language needs, he should provide and select the appropriate materials. Materials include textbooks, videos, audio tapes, computer software, visual aids and digital slide show.

## **METHODOLOGY**

### **Status of ESP teaching in the faculty of Engineering**

In the Faculty of Engineering, French language is used in instruction while English is purely practical; it is taught as a pedagogical support, for most of the documentation and scientific resources which are available in English. Consequently, ESP courses have a certain status of importance; the Dean of the faculty declared that the technical English course for the postgraduate student would be important because those students should be able to write their final Doctorate article in English, but there are no specialized ESP course designers who can provide specifications for course content and methodology. The available two part-time ESP teachers, who are neither syllabus designers nor materials developers, are free to teach whatever they consider suitable to their students.

### **Participants**

**Postgraduate students of engineering profile:** They are seventy (70) students from the faculty of engineering at Badji Mokhtar Annaba University. Only forty (40) students of them are involved in this investigation. They prepare different specializations from seven (07) departments, but are enrolled in the same ESP course for the academic year 2017/2018. According to their ESP teachers, they are false beginners in the English language because they have never had a previous English course at university level.

## Research Instruments

The data gathering tools used in this investigation are the students' questionnaire, and classroom observation.

**-The target students' questionnaire:** it was divided into four parts; 1- the participants' profile and their viewpoints on the target language learning. 2- Students' attitude and motivation towards learning an ESP course. 3- Students' difficulties while using English and skills importance. 4- Identification of needs and wants.

**-Classroom observation:** the aim behind using this tool was to shed light on the course conduct and content, the teacher-students interactions, the students' motivations.

## FINDINGS AND DISCUSSION

The discussion of needs analysis in this investigation relies on two main research tools; the students' questionnaire and the classroom observation.

1. The use of the questionnaire has given a large amount of information about postgraduate students' background; their aptitudes, motivation, needs and wants. So, the aforementioned research instruments helped us to have the following information:

**Table 1. Students' age and specializations**

Number of Respondents	Age Group	Specialization
08	26-32	Electronics
07	26-30	Electro-technics
05	27-36	Mechanics
07	28-32	Electro-mechanics
08	26-34	Computer science
03	28-30	Processing Engineering
02	26/29	Metallurgy Material Engineering

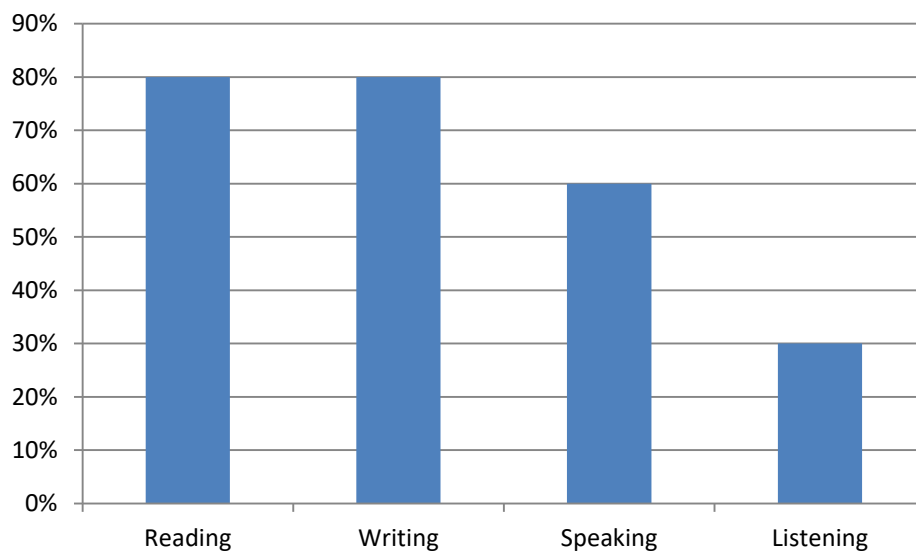
The postgraduate students were aged between 26 and 36 years old, they all belong to the faculty of Engineering and study different specializations which are: Electronics, Electro-technics, Mechanics, Electro-mechanics, Computer Science, Metallurgy and Materials, and Processing Engineering. Most of the participants are males with more than five (05) years of study at the university which means that they are experienced in their field of study. But they had never studied English in the previous years at university level. Due to their weak English background, the majority of them perceived their lacks in the four skills mainly writing and reading. For this reason, they showed a high degree of awareness to enhance their English language skills in order to fulfill their academic needs. Furthermore, all the postgraduate students identified that the main purposes for having an appropriate ESP course are as follows:

- \*To understand lectures in Technical English
- \*To read, understand, and translate resources written in English
- \*To write the article as their final doctoral project
- \*To take part in discussions (in classroom or external conferences)

**Table 2. Degree of satisfaction with the current English language course and time allocation**

Variable	Current English language course	Time allocation
Satisfactory	20%	10%
Non satisfactory	80%	90%

The findings in this study revealed that the current English language course was not properly satisfactory to students 'needs and expectations. Also, the time allocation of English lectures was not motivating, the reason why their attendance decreased progressively.



**Figure 1. Skills' importance**

Regarding the four skills 'importance, the students' answers demonstrated that all skills are important, they however, focused more on the reading and writing skills with 80 % of them in favour of. The speaking skill comes right after with 60% followed by listening which is scored at 30%. Thus, language skills are ranked as follows:

- 1- Reading & writing
- 2- Speaking
- 3- Listening

In addition to the four skills, the participants showed a great interest in translation being considered as a fifth skill to deal with in their ESP course. They all believe that when they make a lot of practice on translation from French in English, it becomes more helpful and useful for them to understand more vocabularies in their field of study.

As a conclusion, needs and perspectives of postgraduate students of Engineering represented a very important source to design an efficient ESP course that improves students' learning skills on one hand, and English language teaching in the faculty of engineering on the other hand.

2/ Classroom Observation was another beneficial tool to gain and collect truthful data. The information collected will be discussed through three principles:

**\*Course content and conduct:** Throughout the six (06) sessions of observation, it was noticeable that the course content was not taught through units, it was grammar-based only. Technical words were explained in English without translating them into Arabic or French. Consequently, the approach seemed to be teacher-based which means, as it was previously mentioned, that students' needs and wants were not taken into account. Besides, this structural syllabus which was full of grammar rules cannot be beneficial or efficient for ESP postgraduate students and would demotivate them.

**\*Teacher-students interaction:** It was noticed that the interaction between teachers and their students was little, because when dealing with the classroom tasks, which all of them are grammar-based, students did not work in pairs or in groups, they answered the asked questions directly, then the teachers wrote the correct answers on the board. Consequently, it was very obvious that teachers' comprehension towards language instruction is that grammar rules are the basis of any language course.

**\*Students 'motivation:** At the beginning of the course, students were motivated to attend the lectures, so they were dynamic participants. But, during the last sessions of observation process, their number became smaller; either because of the time allocated at the end of day or for the reason that course content was full of grammar rules, so they got bored.

## THE SUGGESTED ESP COURSE

### Course rationale

Postgraduate students of the faculty of Engineering face problems in using and understanding Technical English.

**Course objectives:** postgraduate students of engineering should be able to:

- Develop their language four (04) skills in addition to translation competence.
- Know the meaning and spelling of a huge number of technical English terms related to their specialization.
- Translate into and out of English.
- Write reports, summaries and articles.
- Read and comprehend texts and documents in English.
- Listen to oral presentations, understand them and take notes
- Give an oral presentation in front of an audience (in classroom or in conferences)

### Course organization

The course will take place over one academic year during eight (08) months which is twenty eight (28) weeks duration. Regarding lectures, they should be three (03) sessions per week for each group (84 lectures in one year). The target population is first year postgraduate students of engineering divided into groups of thirty (30) students and not grouped altogether in one Amphi theatre like it was the case in the faculty.

### Materials used in the course

- Web articles on Technical engineering
- Cambridge English for Engineering- Series editor: Jeremy Day
- Oxford English for Careers. Engineering: Students' Book by Lewis Lansford and Peter Astley (2013)
- Dictionaries
- Visual aids: Slideshow

### Testing and Assessment

- Quizzes, assignments (formative assessment)
- A written test at the end of each unit
- Oral presentations (projects)
- Final semester exam (S1+S2)

### Course content

**Table 3. The Global Outline of the suggested ESP Course for Postgraduate Students of Engineering**

Unit content	Vocabulary	Tasks	Skills to be developed
Unit 1: Grammar revision	-Tools in the workshops -The content of a tool box -Computer devices -Measuring -Common units	-Present and past tenses -Active vs. passive -Subject/Object questions -Reported Speech	-Writing -Translation
Unit 2 : Material Technology	-Types of Materials -Material properties -Metal processes	-Text comprehension -Description of materials (Orally) -Exchanging information about qualities of materials -A summary of the main types of materials -Grammar (present tense)	-Reading -Listening -Translation -Speaking -Writing



Unit 3: Mathematics and physical forces	-Work and Energy -Mathematical concepts	-Text Comprehension -Mathematical formulae -Past tenses (simple past+ present perfect)	-Reading -Writing
Unit 4: Technical drawing	-Technical drawing Tools	-Text Comprehension (manual drawing and computerized drawing) -Exercises on the production of different work pieces -Grammar (Adjectives vs.Adverbs)	-Reading -Writing -Translation
Unit 5: Machinery	-Machine Tools -CNC (Computerized Numerical Control) machines	-Text comprehension (features of machine tools) -Completing a table on main features of metal processes. -Grammar (active vs. passive)	Reading -Writing
Unit 6: Computer Technology	-Computer Components -Hardware and software -Types of computers -Internet connections	-Text comprehension (types of computers) -Describing the features of your own computer -A summary of the different types of Internet connections -Grammar ( present tense)	-Reading -Speaking -Writing
Unit 7: Technical Assistance	-Types of maintenance -Corrective maintenance -Conditional maintenance -Preventive maintenance (technical terms)	-Text comprehension (Types of maintenance) -Describing the features of maintenance -Grammar (reported speech)	-Reading -Speaking -Writing
Unit 8: Industrial Safety	-Safety Signs and colors -Safety at work -Safety equipment -HSE (Hygiene Safety Environment) standards	-Text comprehension (safety equipment) -Dialogues on how to prevent from work accidents) -Explaining the importance of Safety regulations and risk assessment	-Reading -Listening -Writing

## CONCLUSION

ESP course design is still not an easy task for instructors. In this paper, we tried to depend on ESP literature and ESP course design principles to achieve our aim which is the accomplishment of the overall framework of a technical English course devoted to postgraduate students of the faculty of Engineering at Badji Mokhtar Annaba university in order to develop their English language skills and fulfill their academic needs in their field of study.

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