

Deficiencies Hindering the Involvement of Civil Engineering Master's Students at Adrar University in English for Specific Purposes (ESP) Courses During the Academic Year (2024-2025)

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Abstract: Technical English or what is referred to as ESP is being taught at universities worldwide. This paper aims to find out the challenges that civil engineering students face in their English courses and the needs they seek to attain to foster their learning process. To conduct our research, a quantitative method has been adopted; 60 students (the whole population) were assigned to fill out a questionnaire. The collected data have been analyzed with SPSS. The results show that the deficiencies that students have in their English courses are due to the four skills of language (listening, speaking, reading, and writing) in general and speaking in particular, lack of vocabulary, the low level in grammar, and committing vocabulary mistakes.

Keywords: Deficiencies, Challenges, Courses, ESP, Grammar, Vocabulary.

Introduction

Throughout the history of foreign language teaching, there always disputes about the better ways of instruction in an organized way. So, didactics came with systematic ways of teaching called teaching approaches (like GTM, DM, CLT...). They were not drawbacks-free, but they fostered the teaching-learning process in a way or another. But, teaching foreign languages in general and English in particular took another direction. Instructors used teach GE (General English) learners of various branches using a given approach, nonetheless; GE did not fit with the needs of all learners because of the various requirements of learners. As a result, ESP which had been defined as "*The teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain.*" (PALTRIDGE & STARFIELD, 2013, p. 2), came to replace ESP when needed. ESP, itself is divided into areas and each area includes sub branches as noted by Hutchinson, Waters, and Munby.

The first sub ranch of ESP is ESS (English for Social Sciences). As its name implies, it is concerned with sociology, psychology, and the like. While English for Business and Economics (EBE) deals with the specialty of finance, economics, accountability, management... and so on. The last category is referred to as EST (English for Science and Technology; it regards teaching technical English to the subjects that belong to the umbrella of science and technology. Each type includes two sub branches: English for Occupational Purposes (EOP) and English for Academic Purposes (EAP). (HUTCHINSON & WATERS, 1987, pp. 17-19)

Another classification that John Munby suggested in 1978 was similar to his followers (Hutchinson and Water) with a small difference in the sub divisions. For him, both of EAP and EOP must include two sub parts, simulating The Taxonomy of Strevens (LAKHRIF, 2020).

Types of ESP (Strevens, 1977a) (also in Munby, 1978: 56)

EST (English for Science and Technology), which represents the starting point of our paper itself includes two main areas: Science and Engineering and Technology. The first area (Science) contains the following branches: Earth Sciences, Life, Sciences, and Physical Sciences. The second one consists of: Electric, Civil, and Chemical Engineering. (SWALES, 1985). What concerns us in particular is Engineering and Technology, namely Civil Engineering because our paper will try to figure out the deficiencies (difficulties/challenges) that hinder the involvement of MA 1 Civil Engineering students at Adrar University in ESP courses.

The research questions of this study included the following:

1. Are students competent enough to study an ESP course?
2. Does the ESP course taught to MA 1 students at Engineering Department suit their specialty?
3. If not, what solutions can students suggest to help their teachers design a better course?

Research Hypotheses

1. We assume that students can study English in spite of the fact that they are concerned with civil engineering.
2. The type of English being taught at Civil Engineering Department might suit this specialty.
3. Students may highlight the focal points that they need in their English courses to assist their tutors design appropriate courses including their needs.

I. Literature Review

Many countries around the world which used to belong to Francophone countries, along with Algeria, are recently directing their focus to English as an Alternative of French to be a technical English (ESP) and a medium of instruction (EMI) at universities and vocational training centers. In this paper, we shall present concise reviews of how ESP is taught at Civil Engineering Departments in some countries and what is missing in these courses.

In an article titled “Vocabulary demands for engineering students studying English in Russia: Comparing ESP course materials across three engineering disciplines”, Nekrasova-Beker, T. (2020) examined the extent to which the vocabulary demands of the pedagogical materials employed in ESP courses in Computer Sciences, Chemical Engineering, and Thermal Power in Russia were comparable across the courses and achievable for learners. The methodology of research that the author adopted simulated previous corpus-based studies targeting discipline specific texts (e.g., Hsu, 2011; Matsuoka & Hirsh, 2010; Todd, 2017). The findings revealed that the three specialties did not require the same vocabulary use although they belonged to the same branch engineering). In addition, to adequately comprehend texts, students who belonged to chemical engineering were supposed to learn the largest number of terms. They author has discussed implications of the study for materials development and

teaching ESP courses in various Engineering disciplines (NEKRASOVA-BEKER, 2020)

We have also skimmed through another survey that was carried out by Clement, A., & Murugavel, T. in 2015, investigating “English for Employability: A Case Study of the English Language Training Need Analysis for Engineering Students in India”. The primary focus of their article was the extent to which English language courses offered in the engineering colleges in India were effective. The results unveiled a salient gap between ESP teachers’ methodology and the self-esteem of students towards their levels in English on one hand. On the other hand, the study confirmed the learners’ need to feasible training syllabi for engineering students. (CLEMENT & MURUGAVEL, 2015)

The work of Gömleksi also provides much insight to our field of research; he tilted his piece of research: “*Effectiveness of cooperative learning (jigsaw II) method in teaching English as a foreign language to engineering students (Case of Firat University, Turkey)*”. The article represents an analogy between the impacts of the classic teacher-centered approach and the cooperative jigsaw II on vocabulary knowledge promotion, the way students of engineering learnt English active and passive form, and their perspectives towards learning English at university. The group of learners in Jigsaw model should not include more than six students. It is a learner-centered method in which the teacher is only a guide and a passive person in comparison with students who are esteemed to instruct each other the subject matter in a cooperative way. The sample was randomly divided into two groups: an experimental group and a control one. The experimental group adopted cooperative Jigsaw II, which is a learner-centered approach, as an instruction method while the control group used traditional teacher-centered instruction. The groups were administered an achievement test, as a pre-, post- and delayed post-test. The results revealed statistically significant differences in favour of the experimental group on the dependent variables of improving vocabulary knowledge and learning active–passive voice in English. (GÖMLEKSI, 2007)

In fact, the works about ESP courses for engineering students that we have discussed do not fulfill all the needs of the target students since they could not figure out all the gaps which open the doors to establishing better ESP syllabi. But, they remain somewhat better than preceding investigations in this domain because the researchers had surely skimmed through them to find the missing points of each article or thesis, or book regarding ESP for engineering. As a result, they tried to test the need of the sample they were concerned with to establish better courses. To conclude, modern ESP researches might be more successful than the old ones, but the latter are considered a pillar on which we base our thinking.

II. Research Method

This article sheds the light on the barriers that refrain MA 1 and MA 2 Civil Engineering students at Ahmed Draia University of Adrar (Algeria) from the involvement in ESP lessons; we have adopted a quantitative approach to gather data. Although all specialties (Civil Engineering, Electric Engineering, Mechanical Engineering) the Faculty of Science and Technology were concerned with Technical English Courses, we directed our focus to first year master students (60 students) in the Academic Year (2024-2025)

III. Respondents

Nearly the half of the population to whom we sent our online questionnaire provided us with their feedbacks; they belonged to the specialty of civil engineering (Master One and Master

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Two). In other words all of them were post-graduate students. The questionnaire was elaborated in Google Form.

IV. Instruments

The data were collected through a questionnaire structured to check the extent of the aptness of English courses offered to first and second year master civil engineering students. A questionnaire, which is classified with primary resources of gathering information, aims to draw its conclusions on the basis of statistical results and empirical data that can be measured. In other words, the adopter of this type of instruments has to express the targeted events with numbers, which can be later analysed mathematically with a given application. Mathematical statistics can be percentages-shaped, averages-shaped, and so forth, or with more linear mathematical or statistical ways. (GREETHAM, 2019). In order to achieve the purpose of our study, we embedded 16 questions in our online questionnaire; two of them were about personal information about the selected sample whereas the rest of the questions sought to elicit data about English courses devoted to postgraduate engineering students (needs, problems, and suggested solutions).

V. Data Analysis

Since the adopted approach was quantitative, we used SPSS (Statistical Package for the Social Sciences) to analyse data. When students filled out our online questionnaire, the data were processed through SPSS application in order to interpret them with statistical tables. Afterwards, we summarized the information so that we could get to our focal points: the breakdowns being detected in ESP courses and the way those challenges could be decreased. The informants expressed their needs based on the difficulties and the deficiencies of the way the courses were taught. When all data were completed and analysed, we drew a conclusion.

Findings and Discussions

This study focused on the students' points of view towards delivering learning materials in English. This section unveils the results of data analysis dealing with the students' breakdowns in their ESP lectures and the extent to which the strategies used in teaching mathematics in the English language work. Moreover, the results of this investigation are presented as a consideration in developing teachable ESP courses for civil engineering teachers in charge of master students.

1. Personal Information

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	14	58,3	58,3	58,3
	Male	9	37,5	37,5	95,8
	no answer	1	4,2	4,2	100,0
	Total	24	100,0	100,0	

Table 1: Ages of Students

Type of Bacculaureate				
	Frequency	Percent	Valid Percent	Cumulative Percent
Scientific	14	58,3	58,3	58,3
Valid Technical	10	41,7	41,7	100,0
Total	24	100,0	100,0	

Table 2: Type of Bacculaureate

The answer of the informants regarding the first rubric are included the table above. The first answer reflects that most of them (58.3%) were females while the rest (37.5%) were males; in other words, the soft gender dominates the respondents as usual. Concerning the second answer, it is obvious that the majority of learners (58.3%) were scientific stream secondary school pupils before they attended university.

2. ESP Courses: Challenges, Needs, and Solutions

The second section which included 14 questions came up with the following:

How long have you been learning English?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Eight years	3	12,5	12,5	12,5
more	3	12,5	12,5	25,0
no answer	2	8,3	8,3	33,3
Valid Seven years	3	12,5	12,5	45,8
Six years	12	50,0	50,0	95,8
Ten years	1	4,2	4,2	100,0
Total	24	100,0	100,0	

Table 3: The Number of the Years of Studying English

As it is illustrated in the table above, most of the respondents (50%) had been studying English for six years, i.e. they learnt this language in middle and secondary school. Few of them had been studying it for ten years. The purpose of this question was to figure out whether the long or the short experience denotes competence or not.

How would you evaluate your level of English?

	Frequency	Percent	Valid Percent	Cumulative Percent
Average	14	58,3	58,3	58,3
Good	3	12,5	12,5	70,8
Low	7	29,2	29,2	100,0
Total	24	100,0	100,0	

Table 4: Students' Level in English

The fourth table shows self-evaluation of learners in English; most of them (58.3%) were intermediate learners because they declared that their level was average. Meanwhile, a considerable rate (29.2%) represented those with low level, and this will later lead us to figure out the reason behind that and how to overcome this issue. Few students (12.5%) were good in English. None of the rest of the options was filled out by our respondents.

How often do you use oral English in your branch of study?

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	3	12,5	12,5	12,5
Often	2	8,3	8,3	20,8
Rarely	19	79,2	79,2	100,0
Total	24	100,0	100,0	

Table 5: The Frequency of Speaking in English

The fifth table displays how often master civil engineering students spoke in English inside the classroom. The statistics show that the overwhelming majority (79.2%) did not practise their oral English. Some of the learners (8.3%) often spoke in English with their colleagues and their lecturer during ESP sessions to gain more oral fluency. The rest of respondents (12.5%) confessed that they never spoke English neither inside (While having ESP courses) nor out of the classroom.

How often do you use written English in your branch of study?

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	9	37,5	37,5	37,5
Often	2	8,3	8,3	45,8
Rarely	13	54,2	54,2	100,0
Total	24	100,0	100,0	

Table 6: The Frequency of Writing in English

In the same line, the sixth question regarding English Courses issues was about how frequently learners wrote in English in their branch of study. Frequency adverbs have been used to get logical responses. The findings show that no one was committed to daily writing in English; those who said they rarely wrote in English while studying English courses represented the biggest rate (54.2%). Nonetheless, we could find few members (8.3%) who often wrote in English in reference to civil engineering as well as every day English.

Do you have a problem while using English?

	Frequency	Percent	Valid Percent	Cumulative Percent
No	5	20,8	20,8	20,8
Valid Yes	19	79,2	79,2	100,0
Total	24	100,0	100,0	

Table 7: Breakdowns Faced While Using English

The next question, which we regarded as a key inquiry to achieve our goal, sought whether engineering students at Adrar University faced any difficulties in English in general or not. As we expected, most of them (79.2%) said “yes” whereas only 20.8% of the informants said they did not encounter any breakdowns.

If yes, to which skill does it belong?

	Frequency	Percent	Valid Percent	Cumulative Percent
Listening	4	16,7	16,7	16,7
no answer	5	20,8	20,8	37,5
Valid Reading	4	16,7	16,7	54,2
Speaking	7	29,2	29,2	83,3
Writing	4	16,7	16,7	100,0
Total	24	100,0	100,0	

Table 8: The Skill that Makes a Challenge

The eighth question, which was close-ended as well, aimed to figure out the linguistic skill that blocks learners when they use English. As it is obvious in the table above, most learners (29.2%) found it hard to speak in English. They answered with an equal feedback (16.7%) towards the other skill (listening, reading, and writing).

The problem you face in English belongs to?

	Frequency	Percent	Valid Percent	Cumulative Percent
both	10	41,7	41,7	41,7
no answer	1	4,2	4,2	45,8
Valid your lack of vocabulary	7	29,2	29,2	75,0
your low level in grammar	6	25,0	25,0	100,0
Total	24	100,0	100,0	

Table 9: The Source of the Problem

Afterwards, we wanted to identify the reason of the problem they encountered in such or such a skill. As usual, our question was close ended by provided two choices provided. Most of the respondents (41.7%) said that the challenges the encountered were due to their lack of vocabulary and low level in grammar. In addition, some of them (29.2%) did not possess much vocabulary while the rest (25%) well not well versed with grammar.

How many sessions of English courses do you have per week?

	Frequency	Percent	Valid Percent	Cumulative Percent
no answer	5	20,8	20,8	20,8
one session	15	62,5	62,5	83,3
Valid three sessions	3	12,5	12,5	95,8
two sessions	1	4,2	4,2	100,0
Total	24	100,0	100,0	

Table 10: The Number of English Sessions per Week

Furthermore, when we reviewed many previous studies about ESP in Algeria in particular and the low number devoted to this course, we worded a question about the number of sessions students had per week. The statistics in table 10 revealed that most groups (62.5%) studied on one session per week. We deliberately asked such a question because we think that the more students had ESP sessions, the more their level would promote.

Are you satisfied with the way by which your English teacher is teaching you?

	Frequency	Percent	Valid Percent	Cumulative Percent
No	8	33,3	33,3	33,3
Valid no answer	4	16,7	16,7	50,0
Yes	12	50,0	50,0	100,0
Total	24	100,0	100,0	

Table 11: Approval or Disapproval with the Teaching Strategy

The techniques used by ESP courses lecturers in general could also impact learners' proficiency positively or negatively. So, we aimed to know the attitudes of students towards the way their teachers adopted through a "Yes/No" question. The table shows that 50% of learner advocated their teachers' strategies while 33.3% did not.

Does she/he follow certain methods in the classroom in order to make you more involved in the course and develop your English level?

	Frequency	Percent	Valid Percent	Cumulative Percent
No	13	54,2	54,2	54,2
no answer	3	12,5	12,5	66,7
Yes	8	33,3	33,3	100,0
Total	24	100,0	100,0	

Table 12: The Use of Given Teaching Methods in the Classroom

Based on the three approaches (Behaviourism, Cognitivism, and Structuralism), teachers ought to use a certain method grammar translation method (GTM), the direct method (DM), Communicative Language Teaching Approach (CLT), or the Natural Approach (NA) while teaching. If this point is marginalized, learners will get lost. The twelfth table shows that 54.5% percent of students said that their teachers did not use certain methods to attract their attention during the course and promote their English level.

By which course's type would you prefer to be taught in your English course?

	Frequency	Percent	Valid Percent	Cumulative Percent
Choose a module to be taught purely in English	1	4,2	4,2	4,2
grammar rules	6	25,0	25,0	29,2
learning new vocabulary about civil engineering	17	70,8	70,8	100,0
Total	24	100,0	100,0	

Table 13: Students' Favourite Course Type

The appropriate choice of the course type might help to fulfill the learners' needs in their ESP lessons. The statistics about students' preferences to a given course category reveal that most of postgraduate civil engineering students (70.8%) at Adrar University prefer to learn vocabulary about their branch of study. Some of them (25%), on the other hand, favored grammar rules-based English Courses. The rest of learners saw they had better choose a module themselves to be taught purely in English. If the latter option is taken into consideration by lecturers, it will be a shift from ESP to EMI (English as a means of Instruction)

How often does your teacher use Arabic?					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Always	4	16,7	16,7	16,7
	Never	1	4,2	4,2	20,8
	no answer	1	4,2	4,2	25,0
	Often	10	41,7	41,7	66,7
	Rarely	8	33,3	33,3	100,0
	Total	24	100,0	100,0	

Table 14: The Frequency of Using Arabic by the Teacher

We have already asked about the use of certain methods by ESP practitioners. We asked the question that is apparent in the table above to know how often the teacher translates some technical terms, fragments, or sentences, for instance, in Arabic. This process is not a shortcoming; consequently, it may work sometimes since it is a method that stands by its own (Grammar Translation Method). Most students told us that their teachers often spoke in Arabic to foster the teaching-learning process. The majority of respondents (41.7%) noticed that their lecturers often used Arabic to deliver a given idea or to facilitate communication and overcome a particular breakdown.

In your opinion to what extension should teaching civil engineering focus on?					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	giving more attention to the relationship between English and civil engineering	6	25,0	25,0	25,0
	teaching English within civil engineering	13	54,2	54,2	79,2
	using more English and less Arabis by the teacher	5	20,8	20,8	100,0
	Total	24	100,0	100,0	

Table 15: The Focal Points of Teaching Civil Engineering in English

The pre-concerns for all ESP teachers are the most important things they have to highlight in their courses. In order to help students, alleviate the challenges they face, we asked them to take the position of the teacher and suggest what teaching civil engineering in English should focus on. The largest ratio (54.2%) was represented by those who asked for teaching English within civil engineering as it is shown in the table.

How often do you make vocabulary mistakes?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	7	29,2	29,2
	Often	10	41,7	70,8
	Rarely	7	29,2	100,0
	Total	24	100,0	100,0

Table 16: The Frequency of Making Vocabulary Mistakes

Vocabulary mistakes are the most famous type of errors that all EFL learners suffer from especially those whose major is not English. We asked our informants about the frequency of committing spelling mistakes, with the help of a four-choice close ended question. The majority (41.7%) said they often made vocabulary mistakes while almost a third of them (29.2%) always committed such mistakes. Meanwhile, some students (29.2%) rarely encountered this problem.

VI. Conclusion

Being an instructor of English to EFL higher education learners, either a new or an experienced one, does not necessarily mean that you will be as successful as required in presenting your ESP courses. There is no ideal course/syllabus then. If you are an ESP practitioner or specialist, you can even discard the syllabus that your department hand it in to you to teach; you can design you own instead based on many criteria. This article aimed to find out the difficulties the postgraduate students of civil engineering encounter in ESP courses and the needs they see they might alleviate their deficiencies.

Based on our findings, there is a series of barriers that refrains the target learners from the effective and efficient involvement in their English lessons. First, they are not over headed enough in the four skills of language especially speaking and writing (productive skills). Second, the low level in grammar of many students and the decreased number of the possessed vocabulary reduces their engagement in ESP courses. Third, the number of sessions is so limited by analogy with the number of lessons they ought to study; this problem will either push teachers to teach rapidly to finish the syllabus or to take their time and finish only few lessons since the duration is not enough. Fourth, the learners had bad attitudes towards the techniques adopted. For better teaching-learning process, we worded some questions to explore the needs of civil engineering students.

Concerning the needs that students taught they could help them to be ready to have ESP courses were as follows: Firstly, teachers have to adopt the course type that his students or at least most of them advocate; our sample favored to learn new vocabulary about their domain. Secondly, the use of the mother tongue from time to another to explain some points helps them understand the lesson. In other words, students did not express any bad attitude towards translation.

To sum up, it is unreasonable to design an ESP course/syllabus that is shortcoming-free or to teach or learn such a course without any obstacle. But, it is possible to enhance any course or the way to learn it or teach it especially if ESP practitioners really recognize what the components of ESP Needs Analysis (Target Situation Analysis, Learning Situation Analysis,

and Present Situation Analysis really mean. Briefly speaking, a good ESP teacher need not have designed a syllabus to each individual.

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