

## DIFFICULTIES IN TEACHING ENGLISH FOR SPECIAL PURPOSES TO ENGINEERS AS A FOREIGN LANGUAGE

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**ABSTRACT.** In an age of globalisation, English is the language of science and technology and it is an essential part of the professional training for engineers. The purpose of this paper is to highlight some difficulties and challenges faced in teaching English for Special Purposes to engineering students and to suggest some solutions. Among the difficulties faced by teachers is adapting study materials to the specific groups of learners, especially those in the IT area. Another challenge is that the language teacher is not an expert in the respective professional technical field they are teaching. Moreover, the issue of students' attitude to learning the language plays a very crucial role. An instrument in this study was a questionnaire consisting of 30 items. Students were asked to express their opinion and make an assessment of the language course and the teaching process. The study was carried out with the students in the courses of studies in Automation, Information and Controlling Equipment, Computer Technologies in Engineering, Processing and Recycling of Materials, Development of Mineral Recourses, Management of Recourses and Production Systems, Electrical Energy and Electrical Equipment.

**Keywords:** English for Specific Purposes (ESP), Foreign Language Teaching (FLT), difficulties.

### ТРУДНОСТИ ПРИ ПРЕПОДАВАНЕТО НА АНГЛИЙСКИ ЗА СПЕЦИАЛНИ ЦЕЛИ НА ИНЖЕНЕРИ КАТО ЧУЖД ЕЗИК

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**РЕЗЮМЕ.** В ерата на глобализация английският е езикът на науката и технологиите и е съществена част от професионалното обучение на инженерите. Целта на този доклад е да изтъкне някои трудности и предизвикателства, пред които се изправяме в преподаването на английски език за специални цели на инженерите и да предложи решения. Сред трудностите, пред които са изправени преподавателите, е адаптирането на учебните материали към конкретните групи обучаеми, особено тези в областта на ИТ. Друго предизвикателство е, че преподавателят по английски език не е експерт в съответната професионална техническа област. Освен това много важна роля играе и отношението на студентите към изучаването на езика. Инструмент в това проучване бе анкета, състояща се от 30 въпроса. Студентите бяха помолени да изразят своето мнение и да направят оценка на езиковия курс и учебния процес. Изследването беше проведено със студенти по Автоматика, информационна и управляваща техника, Компютърни технологии в инженерната дейност, Обогатяване и рециклиране на суровини, Разработване на полезни изкопаеми, Управление на ресурси и производствени системи и Електроенергетика и електрообзавеждане.

**Ключови думи:** английски за специални цели, чуждоезиково обучение, трудности.

### Introduction

As English is the language of business, technology, education, and research, the need for ESP is growing rapidly. Students of engineering need specific language skills for their future career. Technical English focuses on the professional field and vocabulary varies in each subject area. Teaching Technical English is part of English for Special Purposes (hereinafter referred to as ESP). ESP is occupationally-oriented since it is aimed at the learners' specific vocational needs. In the area of Technical Education, most of the information sources are in English. In view of this, mastering the language is very important so that the students could perform at a high level in future and continue to develop professionally. The rising academic standards and the requirements for occupational fulfillment of the alumni necessitate the continuous improvement of the teaching methods in the engineering courses of study (Terzieva et al., 2014). In general, language teaching is not intended to just

transfer knowledge but also to develop abilities. Choosing the appropriate content for the purposes of learning becomes more difficult to design, especially since university lecturers in foreign languages are usually non-specialists in the respective engineering area. Most of them have limited knowledge in the vocational field taught in the courses of study and it is a great challenge for them. They often have to master matter that is beyond their competence. In addition, learners are sometimes more knowledgeable about the subject matter than the language lecturers themselves. The teaching material in such courses should be designed and adapted to the learners' needs and should be based on activities related to their profession. When designing the course, lecturers should consider students' General English (GE) level. The competence gained through GE enables the students' learning of ESP and guarantees their interest in using it. The aim of the module in ESP is to produce a syllabus which gives high priority to the language forms students would meet in their Science studies and, in turn, gives low priority to forms they

would not use (Hutchinson and Waters, 1987). During the course, it is of prime importance to decide what approaches and strategies will be applied to teach students in engineering majors. Attitude towards the language immensely influences the learning process and has been identified as one of the most important factors in education. The needs analysis is considered to be an essential feature and as such, it aims at collecting sufficient information on the students' language needs. Therefore, it should be a continuing process. A survey conducted by means of a questionnaire and interviews can also serve as a guide to match the teaching materials with the learners' needs.

The findings in this paper are based on the authors' experience in teaching students of engineering areas. Some suggestions are given related to English for Special Purposes which could be beneficial for other ESP university lecturers.

## Difficulties and Solutions in Teaching ESP

### 1. Course design

Much of the work performed by teachers is related to designing appropriate courses for various groups of learners. Whereas course design plays a relatively minor part in the life of the GE teacher, for the ESP university lecturer course design is often a substantial and important part of the workload (Hutchinson and Waters, 1987). It is questionable, though, whether the teaching methods used in ESP courses meet the learners' needs. The students' command of the English language must be such that they can achieve a satisfactory level in their specialist subject area. Foreign language university lecturers should have in mind that the subject matter requires real life learning situations and the content should be useful to the students. Even though there are many course books designed to serve this area of English, it is very confusing to choose the relevant one. Our choice is as follows:

- we examine in detail the curricula for each course of studies offered to our students (*Automation, Information and Controlling Equipment; Computer Technologies in Engineering; Processing and Recycling of Materials; Development of Mineral Resources; Management of Recourses and Production System, Electrical Energy and Electrical Equipment* at the Kardzhali Branch and *Computer Technologies in Engineering* at the University of Mining and Geology - Sofia);
- we focus on the most important course units on the respective curriculum, i.e. the ones that form the foundation of the specialist subject area, and incorporate them into the overall course design;
- then we search for suitable published materials in each topic included in our course design, preferably textbooks with suitable exercises and training materials; the use of authentic materials is essential in order to prevent students from being bored and lack of interest.
- if textbooks are not available, we resort to the Internet; it should be noted that in recent years the Internet has become a source for authentic or nearly authentic materials for almost any field. In this sense, it is a major asset in the difficult task of designing the respective ESP course. One drawback, however, is that the materials from the Internet are often too detailed or rather complicated, so the foreign language university lecturer has to be able to alleviate the content and grammar, to adapt

them to the students' level of command of the foreign language, and make them suitable for the specific purpose of teaching a language through terminology.

Training in the ESP course should be aimed at achieving foreign language skills related to the particular specialty concerned and, therefore, oriented towards the implementation of specific language tasks in specific situations of the professional life (Purvanova et al., 2010). What is more, knowing the characteristics of the learners should help educators to formulate strategies. Nowadays, it is not uncommon for learners to work and study at the same time, so they may not be very successful linguistically, they may have no time for homework, or they may be very tired by their work. All these factors will need to be taken into account by the ESP lecturer when designing the courses. Another factor that is very important is cooperation between language lecturers and specialists in the relevant fields of knowledge in order to design the course.

### 2. The ESP lecturer

From the very beginning it is made clear to the students that they are learning engineering and that we are specialists in teaching English as a foreign language, not engineers with a degree. The real challenge occurs when the language lecturer must try to appear somewhat knowledgeable about the field of technology which they are teaching. In order to be effective in the courses, it is important the language lecturer to acquire basic knowledge on the particular subject area and to become familiar with the ESP course material. It is absolutely necessary to remember that no matter what technological discipline is being taught, the reason for teaching English through technology is for communication (Caissie, 1978). The emphasis should not be only on specialised knowledge, but above all on skills which will enable students to be more competitive in the labour market. It is significant to keep in mind that the new teaching methodology has competency-based philosophy and the encouragement of critical thinking and creative knowledge acquisition are of great importance. Collaboration with content university lecturers is essential in teaching ESP. By analysing the previous researches and different specialisms of English language lecturers and content lecturers, the former will not strive to learn as much content knowledge as possible but find their own and unique status in teaching with their linguistic knowledge (Luo and Garner, 2017). It is essential to keep up-dated about the latest developments and trends in the field (Latha, 2014). And this is where collaboration with the lecturers in the respective departments, as well as the guidance through the materials extracted from the Internet come is useful.

Another important issue is that special attention should be paid to the arrangement of the topics and the gradual introduction of the specialised content. The ESP university lecturer needs to avoid difficult material and go no further than touching only surface. Teaching too complex professional content can lead to frustrating situations.

After all is said and done, being an effective ESP lecturer requires more experience and extra effort compared to that of the GE lecturer.

### 3. Students' attitude towards the English Language

From our point of view, many students in engineering are not taking enough interest in the English language and they give advantage to their specialised subjects. Some students do not attend classes regularly, nor do they prepare for the exam properly. As a consequence, this pejorative attitude toward English creates a barrier for effective teaching. This is particularly obvious in the groups that are offered language training "in a stream" where students from different courses of study attend language classes together. In the ESP module, students from each faculty are offered topics that are from the area of each course of study and are evenly distributed in terms of number and duration but are not within the field of expertise of the specific student. As a result, students' motivation, as high as it may have been, sometimes drops.

Moreover, each group has a different English proficiency level which is a big challenge for adequate teaching. When learners are with mixed abilities, stronger students may feel held back and weaker student may feel stressed. Hence, the role of the teacher is to create conditions for positive working environment and motivate the students. This drawback has recently been overcome in the course of study in *Computer Technologies in Engineering* at the University of Mining and Geology - Sofia where last year and this academic year first-year students were divided into two sub-groups depending on their results from a placement test in GE. ESP is generally taught to intermediate or advanced students but teaching students at an elementary level is not an exception, especially in the course of study in *Computer Technologies in Engineering* and in *Geology and Geoinformatics* where the English language is mandatory.

Dudley-Evans and St. John (1998) assume that basic knowledge of the language system is required in ESP courses. English curriculum and class activities should be planned according to students' necessities, feelings, and behavior. Besides, language lecturers should recognise and respect the students and encourage them to positive attitudes towards English learning (Eshghinejad, 2016). The ESP syllabus at the University of Mining and Geology "St. Ivan Rilski" is designed according to students' needs and their former knowledge of GE and it focuses on professional vocabulary relevant to all disciplines. Training is upgrading and it aims to prepare the future engineers for work with specialised literature and actively communicate in the relevant language within the framework of their professional responsibilities at the workplace (Purvanova et al., 2014). Relationships with colleagues and teachers, the atmosphere in the classroom, the nature of the learning activities, and other factors can affect students' attitude towards learning the language. The issue of attitude can be resolved by establishing a positive learning environment, by paying more attention to interactive activities in class such as discussions, debate sessions, role-plays, pair and group work, problem-solving tasks so that students can gain more confidence.

It is also very important to set realistic goals for student achievements. Specifically, it is obvious that the learners will not be able to perform like native speakers by attending English classes only four periods a week in the course of 2 or 3 semesters. In reference to the ESP course, the students are in

the process of attaining education but there are students who are already experienced in a certain job. Those who have returned to learning after a break of some length are inclined to have a low opinion of learning the language. In such cases, the lecturer's task is to change the students' expectations, to motivate them by offering non-judgmental feedback on their work, and to look for and find ways to encourage advancement, such as giving them the opportunity to choose paper topics and project assignments and assessing them in many and various ways like grading tests, encouraging and rewarding presentations delivered, giving credits for project, etc. In our opinion, it is evident that the more positive attitudes students have towards the English language, the better they learn it.

### Approaches for Overcoming Difficulties in ESP Classes

The communicative approach is learner-centered and based on real life situations and its final aim is the communicative competence. In teaching ESP, the focus is on presenting terms and reading and translating a number of sometimes boring and complicated texts. So, extensive communication is not used during most of the lessons. Since the 1960s, foreign language teaching has expanded from teaching grammatical structures to promoting abilities for communication. The purpose of ESP is to prepare learners to communicate effectively in different work situations. It has become evident that for acquiring a language, the mere realisation of the grammatical competence is not sufficient; the communicative competence is required as well.

The motivational factor is of great importance in the process of learning a foreign language. We need to focus on the way we can motivate our students based on the psychology of their age, on the way a learner psychologically perceives the use of language, and on the way a second language is acquired. What is more, current cultural trends in teaching need to be taken into account in order to respond to the current learners' needs (Drobot, 2016). Giving positive feedback can increase learners' satisfaction and stimulate positive self-evaluation. A learner who has a sense of accomplishments and achievements will feel more comfortable and self-confident.

Another aspect of student motivation is related to the fact that the ESP classes should not precede the topics in the special subjects, as Saliu puts it (Saliu, 2013). The reason is that since the ESP university lecturer is not a subject specialist this can sometimes lead to misunderstanding. Moreover, if a topic has already been discussed in the special subject, this motivates the learners and gives them confidence to communicate or discuss.

Finally, learners are expected to take on a greater degree of responsibility for their own learning. And language university lecturers have to assume the role of facilitators rather than just being models for correct speech. They have to develop a different view of learners' errors and of their own role in facilitating language learning (Richards, 2006). In view of this, in the module of ESP, we tend to ignore the errors students make - and they do, quite often, regrettably, because second

language acquisition is not a miraculously effective fault-free process - and focus on their communicative performance, on their confidence in presentations or in the views they express or defend.

### Questionnaire Results

The aim of the survey was to find out students' opinion about their attitudes and assessment of the teaching process. The respondents were students who learn ESP at the University of Mining and Geology "St. Ivan Rilski". There were 35

participants altogether, as 91 % of them were from the Kardzhali Branch. The students were asked to answer questions. In 26 of the questions students were expected to tick the appropriate answer according to the Scale: Not at all, Partly, and Completely. Students had to comment on learning ESP concerning subject matter of the ESP course. To guarantee a positive participation, the students were informed that their answers would be confidential and they were not required to write or give their names. The survey was anonymous also for the purposes of finding out the problems of ESP lecturers. The survey results are shown in Table 1:

Table 1.

*The frequency and percentage of the students' attitude towards their English teachers*

№	Question / Indicator	Students' attitudes		
		Not at all	Partly	Completely
<b>Multiple choice questions</b>				
1.	Clearly outline the purpose and structure of the course unit. Adequately guide the students in their ESP course.	1	12	22
		2.86 %	34.29%	62.86%
2.	Organised teaching and optimal use of the class. Assigning effective exercises which are conducive to learning.	1	9	25
		2.86 %	25.71%	71.43%
3.	Systematic teaching of the learning content delivered in an accessible and understandable way. Providing good grammatical explanations.	0	11	24
		0%	31.43%	68.57%
4.	A skill to motivate students to learn.	2	14	19
		5.71%	40.00%	54.29%
5.	Effective use of modern appliances and technologies (multimedia and visual aids for teaching), interactive methods and new teaching materials, facilitating the learning process.	6	11	18
		17.14%	31.43%	51.43%
6.	Attracting students' attention and creating a lasting interest in the course unit.	5	9	21
		14.29%	25.71%	60.00%
7.	Regular monitoring of the audience response during teaching.	3	10	22
		8.57%	28.57%	62.86%
8.	Providing the newest trends in the subject area taught. Use of reliable books and sources.	6	9	20
		17.14%	25.71%	57.14%
9.	Connecting the learning matter (theory) with practice.	9	10	16
		25.71%	28.57%	45.71%
10.	Explaining the ambiguities and difficult issues that arise in the process of delivering the course content. Good explanations about the technical terms and collocations needed for the specialty.	1	9	25
		2.86%	25.71%	71.43%
11.	Summarising key points and regularly reviewing the lessons.	4	15	16
		11.43%	42.86%	45.71%
12.	Case study approach and stimulation of self-thinking.	5	9	21
		14.29%	25.71%	60.00%
13.	Developing their own views and concepts in academic style.	9	9	17
		25.71%	25.71%	48.57%
14.	Making and maintaining informal contact with students.	6	11	18
		17.14%	31.43%	51.43%
15.	A person of principle and cultural in their relations with students.	1	8	26
		2.86%	22.86%	74.29%
16.	They have teaching and human morality.	1	6	28
		2.86%	17.14%	80.00%
17.	Level of impartiality in assessing knowledge and skills.	0	12	23
		0.00%	34.29%	65.71%

18.	They have personal charm.	1	8	26
		2.86%	22.86%	74.29%
19.	They have rich general knowledge.	1	6	28
		2.86%	17.14%	80.00%
20.	Professional competence of the lecturer.	0	4	31
		0.00%	11.43%	88.57%
21.	Teaching skills to present and explain the educational material.	0	7	28
		0.00%	20.00%	80.00%
22.	Completeness of exposition.	2	15	18
		5.71%	42.86%	51.43%
23.	Clarity of speech and answers.	1	8	26
		2.86%	22.86%	74.29%
24.	Applicability of the educational material. It is oriented towards putting in practice.	2	16	17
		5.71%	45.71%	48.57%
25.	The educational material offered is topical and up-to-date.	1	17	17
		2.86%	48.57%	48.57%
26.	Your complex assessment for English teachers compared to your idea of an ideal lecturer at a university.	1	11	23
		2.86%	31.43%	65.71%
<b>Open-end questions</b>				
		<b>Analysis</b>		
27.	What was most useful and interesting for you in the conducted module in General English / ESP?	Students point out the following as the most useful and interesting aspect in English language learning: - the acquisition of English speaking skills; - learning new technical terms; - refreshing knowledge of grammar; - acquiring skills for discussion on specialty related topics; - technical English related to the field of IT; - writing an academic summary (Abstract).		
28.	What topics would you like to be included in the curriculum that are not covered by the curriculum for this course ?	Students express their willingness to learn more new vocabulary items applicable in everyday situations.		
29.	Your suggestions for improving the quality of teaching, the content of the teaching material, the organisation, and the teaching methods:	Students outline the following: - discussing topics related to the latest development in the field of IT; - using more visual aids; - highlighting similarities and differences in the meaning of the words.		
30.	Your recommendations and advice to the lecturer:	Students recommended that teachers should use power point presentations (or equivalent) more often as those will provide a stimulating addition.		

## Data analysis

The table demonstrates that the majority of the students express a high opinion of the language lecturer's professional competence (items 20, 21 and 3). Students are also pleased with the lecturer's ability to explain the educational material in an understandable way, but at the same time they show uncertainty in developing their own views and concepts in academic style (item 13). This can be attributed to the fact that the students have difficulties in applying past knowledge to new situations. Lecturers must give their students the chance to use their prior knowledge to solve a problem or explore a new idea. It can be seen from the table that there is more to be desired in terms of enhancing students' motivation to learn English and the use of modern technologies, interactive

methods and authentic books (items 4, 5 and 8). Students' assessment of connecting study material to practice is low (items 9 and 24). This problem can be effectively solved by close collaboration between the ESP lecturer and the content lecturer. According to the students' opinion, it is necessary to improve summarising key points and regularly reviewing the lessons, as well as to be aware with the latest trends in the professional field. The respondents evaluate as insufficient applying the case study approach (item 12) and maintaining informal contact with students (item 14). A number of students do not have enough knowledge of GE and in consequence they experience difficulties in learning ESP which leads to challenging situations for both teachers and students in the classroom. The last four questions were optional. The students were asked to comment on teaching and learning ESP. The

majority of the students wrote that the ESP course was useful and excellent.

In the analysis of students' answers and attitudes, their level of General English, their level of professional knowledge, and their expectations about the ESP course must be considered.

Analysis of the results in the table is useful in establishing learners' preferences concerning the goal of the ESP course: to be able to communicate and discuss in the professional area.

## Conclusion

The aim of this paper was to discuss the difficulties in teaching ESP to engineers. Although we are faced with many challenges, we can analyse the present situation, provide an effective method of ESP teaching, and find a suitable way to improve the educational process. Teaching ESP combines skills along with the task of obtaining specific information. The ESP lecturer not only teaches but also provides materials, designs a syllabus, collaborates with content lecturers, carries out research, and evaluates students' progress. In order to provide an appropriate design, communication approach is suggested due to time restrictions. Teaching methods should regularly be updated by reducing grammar and focusing on the skills of students. The ESP lecturer should develop students' positive attitude towards the learning process. The students will learn with high motivation if teachers know about their learners' needs and interests.

It can be concluded that the successful ESP lecturer must possess general qualifications of a good teacher, as well as enough information related to the principles of adult learning. They must also make an attempt to develop all various components of the ESP program. And last but not least, in order to have meaningful communication, they should try hard to get information about the discourse and content of the subject matter which they are supposed to teach.

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