

Techniques of Teaching English for Engineers

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Abstract. *The main purpose of this research is to present the teaching English for engineers with emphasis on the role of the communicative language teaching. In the global context, students of engineering need a specific set of language skills for their success in education and career. In the first part the paper describes the meaning of ESP and the professional requirements in the world of work. The second part of the paper discusses the importance of Internet in teaching communicative engineering English language and the final part illustrates the results and discussion of this topic.*

Key words: Engineering students, English language needs, communication skills.

Introduction. The teaching of English as a foreign language to engineers is essentially utilitarian. The learners need English as means of doing their work efficiently but first of all for being able to communicate. ESP (English for Specific Purposes) is often divided into EAP (English for Academic Purposes) and EOP (English for Occupational Purposes). Further sub-divisions of EOP are sometimes made into business English, professional English (e.g. English for doctors, lawyers) and vocational English (e.g. English for tourism, nursing, aviation, and bricklaying). What is important with ESP is the fact that it is designed to meet the specific needs of the learners and is centered not only on the language (grammar, lexis, register), but also on the skills and discourses. I think that development of communication competence is very important because with the spread of globalization the increasing use of English as the language of international communication has come.

More and more people are using English in a growing number of occupational contexts. Harding¹ (2007) stresses that the general skills that a general English teacher uses e.g. being communicative, using authentic materials and analyzing English in a practical way are also applicable to ESP. He also suggests that teachers should:

- Think about what is needed and don't just follow an off-the-shelf course or course book;
- Understand the nature of their students' subject area;
- Work out their language needs in relation to their skills;
- Use contexts, texts, situations from their subject area;
- Use authentic materials;
- Make the tasks as authentic as possible;

¹ Harding, K., (2007), *English for Specific Purposes*, Oxford University Press

- Motivate the students with variety, relevance and fun;
- Take the classroom into the real world and bring the real world into the classroom.

What is ESP exactly? People described ESP as simply being the teaching of English for any purpose that could be specified, as the teaching of English used in academic studies or the teaching of English for vocational or professional purposes.

ESP should be seen simple as an “approach” to teaching. Tony Dudley-Evans², co-editor of the ESP Journal gives an extended definition of ESP in terms of “absolute” and “variable” characteristics:

Absolute characteristics:

- ESP is defined to meet specific needs of the learners;
- ESP makes uses of underlying methodology and activities of the discipline it serves;
- ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre.

Variable characteristics:

- ESP may be related to or designed for specific disciplines;
- ESP may use, in specific teaching situations, a different methodology from that of General English;
- ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work

situation. It could, however, be for learners at secondary school level;

- ESP is generally designed for intermediate or advanced students;
- Most ESP courses assume some basic knowledge of the language systems.

Some ESP teachers may feel intimidated when faced with the prospect of teaching **Engineering English**. This is generally because they are concerned that their possible lack of experience or knowledge in engineering will be exposed and they will be made to feel inadequate as a result.

The teacher’s role in this case is not to present engineering concepts to the learners or to instruct them in engineering field. On the contrary, it is to enable such learners to develop their language skills within an engineering context. Teachers of engineering English are first and foremost teachers of English. Where teaching Engineering English differs from teaching General English will normally be in the choice of contexts for listening and reading texts and in the choice of lexis in grammar and vocabulary exercises.

Professional requirements. The rapidly changing technology demands more and more science oriented engineers.

For engineers, English is primarily a library language meaning that the student must understand enough to gain access to knowledge contained in textbooks and particularly in periodicals and journals in order to extract information and keep abreast with latest technologies. The second most important part English plays for engineers or engineering students is its position as an international language of conferences, symposia, and seminars, which means that they need to be able to understand specialized spoken language. Active participation in these meetings, however, also demands an ability to communicate with colleagues, participants etc. As well as skill in the specialized language of

² Dudley-Evans, Tony, (1998), *Developments in English for Specific Purposes: A multi-disciplinary approach*, Cambridge University Press.

engineering this also demands knowledge of everyday language.

The professional requirement to comprehend the written word concerns virtually all engineers. The proportion of engineers who go to study or practice in English-speaking countries is even smaller, so at university level we concentrate on teaching to engineering students the skills needed to speak everyday English and more specialized engineering English as well as the skills needed for writing.

How to teach communicative engineering English using the Internet

ESP might, for example, emphasize the development of reading skills in students or it might promote the development of spoken skills in students and that depends on students' needs to be successful in their field of work. In what follows I will concentrate on how to teach conversational skills to engineering students especially using the Internet. ESP concentrates more on language in context than on teaching grammar and language structures and Internet is a wonderful resource for teachers to enrich their lessons providing authentic and up-to-date materials, interactive exercises etc. whatever the level of students. From beginner level through to advanced, students will be able to practice their conversational skills within an engineering context using the Internet view as a tool that increases the global access to engineering education information, as under-served languages come online.

I will give some examples of activities for English classes: picking 5 famous engineers and prepare questions about them (perfect for practicing engineering-related vocabulary and structures). Students have to create their own questions for the rest of the class, or prepare an imagined interview with a personality of their choice. Internet allows students to research a particular topic; they can prepare either individually, in pairs or in small groups for a presentation. Where books may be out of date

or hard to come by, the Internet offers a host of free information that is current and relevant. Presentation skills allow students to practice vocabulary related to their field in addition to giving them the chance to do relevant research. If necessary, pre-teach the vocabulary and structures students are likely to need, and teachers can give them either one or more relevant websites, or allow them to search for suitable websites themselves via search engines. It is important for teacher to set the students very concrete goals and achievable tasks since the very beginning.

A lesson in Internet terminology is also important to teach: from a student being able to say their email address correctly (explaining that @ is pronounced 'at') to being able to understand and use English language websites. Articles on science and technology published in English and American books, magazines and newspapers can be used as teaching materials, for these authentic articles are different from those of the test-oriented textbooks.

Technical articles have no plots, which would bore the students and selecting the materials it is very important like: Automotive Engineering, Electrical Engineering, Mechanical Engineering etc. but avoiding using long, dull and highly specialized texts. Articles related to this field can be selected from *Financial Times*, *International Business*, and *Motor Vehicle Technology*. As for "speaking", the teacher can ask some questions on the learned text for the students to answer.

Using the Internet learners will become independent and they develop their creativity and autonomy being motivated to use and develop skills such as analyzing, synthesizing and evaluating, collating and organizing information, and interpreting language for meaning. The teacher will play the role of facilitator providing support, monitoring and having an evaluating capacity.

I think the Internet is an invaluable tool in teachers' search for new and interesting ideas.

Results and Discussion. Students will acquire English as they work with materials which they find interesting and relevant and which they can use in their professional work or further studies. The more learners pay attention to the meaning of the language they hear or read, the more they are successful; the more they have to focus on the linguistic input or isolated language structures, the less they are motivated to attend their classes.

From this study we can see that students can learn both English and knowledge from ESP course. Students can pick much knowledge through communicative teaching method with the visual aids such as video clips, photos, etc. An interactive quiz comparing with a normal test gives more motivation to learners. Students acquire language when they have opportunities to use the language in interaction with other speakers. That's why reading a hot topic from a newspaper and making a round-table discussion (available for advanced learners) will give learners more self-confidence in order to communicate, and teacher has the responsibility to help build the learner's confidence.

Internet builds a new dimension in the education process in this era of globalization: by combining language education with technology education.

Conclusions. Language and communication skills are recognized as important elements in the education of the modern engineer, including English for specific purposes. Consequently, there is a need for a valid and reliable form of assessment for oral communication for the workplace: more and more enterprises use English as their primary Language; most of the world's engineering publications are written in English, Internet's language is English etc. For example the ability to communicate effectively in English over the phone is a skill relevant to the majority of occupations.

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