TEACHING ENGLISH AT THE BULGARIAN TECHNICAL UNIVERSITIES

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ABSTRACT. One of the major problems of professionals is communicating effectively in English both at the written and oral levels. With globalisation and the ever-increasing international exchanges, the amazing gap between the professional competencies and the required matching communication competencies has been highlighted. This is most evident in the field of science and technology. This paper is an attempt at making an overview of methods of teaching English at the Bulgarian technical universities with special attention to mastering the terminology in the specific technical field. The overview is based on a study of the teaching practice at three major technical universities in Sofia. Textbooks specially written for the students of those universities are discussed in terms of the methodology followed in structuring the teaching units. A conclusion is drawn that an eclectic, i.e. notional-functional approach is generally applied but the terminological and conversational practice tasks are quite insufficient. Recommendations are made for increasing the proportion of the terminological component in English for Science and Technology courses for Bulgarian students and developing their communication skills.

ПРЕПОДАВАНЕ НА АНГЛИЙСКИ ЕЗИК В БЪЛГАРСКИТЕ ТЕХНИЧЕСКИ УНИВЕРСИТЕТИ

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РЕЗЮМЕ. Един от основните проблеми на професионалистите е ефективната комуникация на английски език както писмено така и говоримо. С глобализацията и постоянно нарастващия международен обмен става все по-ясна пролуката между професионалните умения и съответно необходимите комуникативни умения. Това проличава най-добре в областта на науката и технологията. Този доклад е опит да се направи преглед на методите на преподаване на английски език в техническо висше учебно заведение, като се обръща специално внимание на усвояването на терминологията в дадена техническа област. Прегледът се базира на изследване на преподавателската практика в три водещи технически университета в София. Разгледани са учебници, специално написани за студенти от тези университети, от гледна точка на методологията следвана при структурирането на уроците. Направен е изводът, че като цяло е приложен един еклектичен, т.е. понятийно-функционален подход, но практическите задачи, свързани с терминологията и говоримия английски са сравнително недостатъчни . Направени са предложения за увеличаване делът на терминологичната част в обучението по специализиран английски за българските студенти в технически вузове и развиване на техните комуникационни умения.

Introduction

Technical university graduates require an ever-increasing range of skills to maintain relevance with the global environment of the new millennium. Communication skills are a vital component of this, recognised by academia and industry alike. English language skills are also important given its widespread status across the globe as a *lingua franca*. Communication skills are essential for an engineer/geologist/architect who aspires to carry out his/her professional practice in the global arena. Evidence indicates that communication skills are what helped *Homo sapiens* evolve beyond our related ancestors, and that these skills have helped humankind develop into the advanced societies on Earth today. However, these skills have become stifled in the very disciplines that have brought so much advancement such as engineering, geology and architecture. There is ample evidence that technical university graduates lack the required standard of communication skills, particularly when compared to the needs of industry internationally.

Globalisation directly influences industry's needs; a global engineer, for example, must be able to easily cross national and cultural boundaries. This in turn directly affects engineering education. A common code for communication is required. There is a clear necessity for effective English communication skills for technical university students in the current globalised environment. A course in English for Specific Purposes (ESP) will enhance English language training and the communication skills of those graduates. The concept of ESP achieves more in the education of technical university students by focusing the learners' attention on the particular terminology and communication skills required in the respective professional field.

The ability to use real, appropriate language to communicate with colleagues of the same profession is the primary goal of specialised language teaching. In this respect, the design of a notional-functional, i.e. an eclectic curriculum has proved to contribute to the achieving the aforementioned goal. In the article "A terminology-based approach to ESP teaching" (Alexiev, 2004) has been studied the development of the notional-functional approach to ESP teaching. This approach is a combination of function-based methods of teaching where students are introduced to the communicative functions of the special discourse (e.g. describing shapes, structure, etc.) and notion-based methods of teaching where students are taught to comprehend the conceptual structure of a scientific/technical

text (e.g. a text which relates a material with its properties). In the notional-functional model, a "notion" is a particular context in which people communicate. A "function" is a specific purpose for a speaker in a given context. In a notional-functional syllabus, instruction is not organized in terms of grammatical structure but instead in terms of "notions" and "functions".

The *aim* of this paper is to make an overview of methods of teaching English at Bulgarian technical universities. The overview is based on a study of the teaching practice at three major technical universities in Sofia. Textbooks specially written for the students of those universities are discussed in terms of the methodology followed in structuring the teaching units. A conclusion is drawn that an eclectic, i.e. notional-functional approach is generally applied but the terminological and conversational practice tasks are quite insufficient. Recommendations are made for increasing the proportion of the terminological component in ESP courses for Bulgarian technical university students.

Content and structure of the three textbooks

The first textbook (Alexiev, 1985) is designed for first and second year students in the fields of mining and geology. It consists of two parts. The first part is provided for students of different subjects in the first two semesters. This part contains sixteen units. The first introductory unit comprises a short review of English phonetics and grammar with exercises. A wordlist is given at the beginning of that unit. The other fifteen units are elaborated on the basis of authentic specialized texts from the fields of geology, mining and mining mechanization, electrification and automation. Each unit is subdivided into three sections: 1. Reading comprehension (tasks on a thematic text); 2.Use of language (tasks on the communicative functions contained in the text); 3.Translation (term-definition and term-translation matching tasks). There is a short grammar review at the end of this part and an English-Bulgarian vocabulary. The second part is provided for specialized training in the respective faculty. It contains 24 authentic specialized texts. Eight texts are devoted to each of the three degree courses: Geology, Mining and Mechanization, Electrification and Automation of Mine Production. There is an English-Bulgarian technical vocabulary at the end of the second part which contains the terms from both parts.

The second textbook (Alexiev et al, 2011) is designed for students of the five degree courses offered at the University of Architecture, Civil Engineering and Geodesy. It contains sixteen units: one introductory and fifteen thematic ones, three units intended for each of the five degree courses offered at that university. Each unit consists of nine sections. 1. *Starter* (general questions on a certain topic); *2.Reading comprehension* (comprehension tasks on a thematic text); *3.Terminology* (term-definition and term-translation matching tasks); *4.Use of Language* (tasks on the communicative functions contained in the text); *5.Viewing activity* (gap filling while video watching); *6.Grammar; 7.Situational English* (communicative situation tasks); *8.Translation* (assisted and non-assisted); *9. Writing* (summarizing and essay writing). The sections *Grammar* and *Situational English* are meant for students of lower English proficiency level but they also develop the professional communication skills.

The third textbook (Alexieva, 2012) is a course designed specifically for students in the fields of mechanical engineering and mechatronics. The course consists of twelve units. Each one provides practice in the skills of understanding and interpreting scientific and technical texts in a special domain using the language in everyday and professional situations and summarizing written text. The sections in the unit are as follows: 1.Reading Comprehension tasks (two types: general questions on the text and true/false questions); 2.Terminology section including a term-definition matching task; 3. Use of Language section offering activities for revealing specific communicative functions of scientific discourse; 4. Grammar section revising basic grammatical structures with special reference to constructions typical of scientific writing; 5.Situation section providing opportunities to practice the use of English in both everyday and professional settings; 6. Writing section centering on the skill of text summarizing.

The teaching material in these syllabuses is designed to introduce students to the discourse structure of a particular genre in scientific English. The conclusion made on the basis of this review is that in the three textbooks an eclectic, i.e. notional-functional approach is generally applied but the terminological and conversational practice tasks are quite insufficient. It is recommended that the number and variety of terminology and communication related tasks should be increased in view of their relevance for comprehending and communicating in specialized English.

Recommendations for increasing the terminological component

The proportion of the terminological component could be increased by adding terminological tasks involving terminological collocations, translation of terminological phraseology, etc.

1. Terminological collocations

A collocation is an expression consisting of two or more words that correspond to some conventional way of saying things. They are an important part in any ESP course and play an essential role in understanding and producing specialized text. Especially the terminological verb collocations have a high frequency of occurrence and interesting tasks with those collocations, e.g. 'the odd-one out" and gap-filling could be suggested.

2. Translation of terminological phraseology

Translation of phraseological units and their stylistic properties has been in the focus of research interest for several decades.Translation of phraseological terms is a new area of research both in the theory of phraseology and translation studies. It calls for comprehension of the basic tenets of phraseology including understanding figurative meaning of phraseological units as a categorial feature. Essentially, it also calls for metaphorical competence and recognition of phraseological units. On the other hand, translation requires understanding of cognitive linguistic processes in the formation of figurative terminology. Thus, translation of phraseological terms stands on the fringe of phraseology, terminology and cognitive linguistics.

The issue of translation of phraseological terms is even more topical in the new millennium, with novel terms, many of them

metaphorical, springing up in all spheres of human activity. The simple fact is that metaphors abound in science. They are borrowed globally across languages and cultures together with new theory and they all need to be translated as they concern the latest developments in all domains. Translation and interpreting practice reveals a variety of approaches in dealing with phraseological terms, each indicating a different understanding of the relationship between the metaphorical concept and the term:

• Metaphorical loan translation – this means that the theory is borrowed together with the metaphorical term;
• Replacement by another metaphor;
• Demetaphorisation of the term – nonmetaphorical translation;
• Variants: two or several translations functioning at the same time;
• Replacement by a definition;
• Placing in inverted commas;
• A translation void, that is, the term remains untranslated
• Long delay - this means that no official translation has been offered for several years (Naciscione, 2011)

Recommendations for developing communication skills

A review of literature indicates that oral communication has been identified as a *learnable skill* (Polack-Wahl, 2002). Furthermore, communication skills development has been demonstrated through the use of various methods such as:

1. Presentations
Group projects and presentations encourage and enhance the interpersonal skills of students and should be emphasised early in the education curricula.

2. Peer Review
Peer assessment has been shown to provide many advantages such as getting students to think about the exercise more deeply, recognising others' viewpoints and learning to express constructive criticism to peers.

3. Role-play
As knowledge of communication theory does not necessarily parallel skills in practice, it is important to immerse students in similar work environments. Context-specific enactments, or role-play, can focus the students' attention on the differing types of communication required with various groups in potential future work situations.
It is important to utilise pseudo environments to simulate meetings with clients/developers/peers/etc. as this will also allow students to interact with different levels of technical intensity, as well as engage in non-technical communications.

4. Technology
Current technology should be utilised or at least demonstrated to the students so that they be aware of what is in use beyond the university walls. Instructors in communications need to review and update methods due to the rapid advances in communications technology.

5. Active Involvement of the Learner
Engaging learners will help facilitate and stimulate effective and purposeful learning. Involving the learners directly, in particular, will engender a stronger sense of responsibility in the future graduates that they can take beyond the university and into the work arena. This is especially important in engaging learners of English for Specific Purposes since it involves new vocabulary.

6. The Fun Factor in Education
There is not much fun but rather a great deal of stress in training future engineers, geologists, architects, etc. However, communication games improve students' fluency in the target language and enable them to develop their spontaneity and creativity. Communication games help teachers teach the target language in a meaningful manner and the use of that language in a proper context (Riemer, 2002).

Conclusion

Courses in ESP, in particular, English for Science and Technology, play an important role in the career advancement of millions of technical university graduates all over the world. It is an inevitable tool for those who aim at establishing wide contacts in the global village and climbing up the ladder of success. It is the responsibility of ESP lecturers to teach the special language effectively. That type of discourse can be taught and learnt in an effective manner through various communicative activities. What is important is that ESP teachers should be ready to evaluate their teaching and get feedback from their students. If they do not achieve the result aimed at, they should be ready to change their teaching methodology and techniques. A certain amount of openness in the ESP practitioner can really do wonders. They should ask themselves how to make specialized English language teaching and learning more enjoyable and how to enhance students' learning and maximize their productivity.

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