

SIMILARITIES AND DIFFERENCES IN TEACHING ENGLISH FOR SPECIFIC PURPOSES TO ENGINEERING STUDENTS AT THE UNIVERSITY OF MINING AND GEOLOGY “ST. IVAN RILSKI”, SOFIA, AND AT THE TECHNICAL UNIVERSITY BERGAKADEMIE FREIBERG

Tsvetelina Vukadinova

University of Mining and Geology “St. Ivan Rilski”, 1700 Sofia; tsvetelina.vukadinova@mgu.bg

ABSTRACT. Teaching English for Special Purposes (ESP) to engineering students is a challenge that is concerned with very particular purposes, tasks and requirements. One crucial point represents the need for specific curricula, as well as good understanding of general English. This knowledge is the basis for students' improvement and successful and easy acquirement of terminology in the foreign language. Another important point is the methodology – how terminology is taught to the engineering students. The paper explores the similarities and differences in teaching ESP to engineering students in two universities - the University of Mining and Geology “St. Ivan Rilski”, Sofia, and Technical University Bergakademie, Freiberg. The comparison and contrast data was collected during a teaching mobility activity to Germany under the Erasmus+ programme and the author's own experience as a foreign language lecturer. The paper presents and adapts useful methods of teaching and learning terminology so that university lecturers find the best and most convenient, practical and functional way in which they can increase and improve engineering students' skills and knowledge.

Keywords: ESP, Foreign Language Teaching, engineering students, methodology, terminology

СРАВНИТЕЛЕН АНАЛИЗ НА ИЗУЧАВАНЕТО НА АНГЛИЙСКИ ЕЗИК ЗА СПЕЦИФИЧНИ ЦЕЛИ В МИННО-ГЕОЛОЖКИЯ УНИВЕРСИТЕТ “СВ. ИВАН РИЛСКИ”, СОФИЯ, И В ТЕХНИЧЕСКИЯ УНИВЕРСИТЕТ МИННА АКАДЕМИЯ, ФРАЙБЕРГ

Цветелина Вукадинова

Минно-геоложки университет “Св. Иван Рилски”, 1700 София

РЕЗЮМЕ. Преподаването на чужд (английски) език за специфични цели на студенти от инженерните специалности е предизвикателство, което е свързано с особени цели, задачи и изисквания. Важен момент представлява нуждата от специфична учебна програма, както и добро владение на общоговорим чужд (английски) език. Тези знания са основата, с която студентите да могат по-успешно и по-лесно да усвояват терминологията на чужд език. Друг важен момент е методиката – как терминологията бива преподавана на студентите от инженерните специалности. Настоящият доклад представя прилики и разлики в начина на преподаване на чужд език за специфични цели в два университета – в Минно-геоложкия университет “Св. Иван Рилски”, София, и в Техническия университет Минна академия Фрайберг. Направеното сравнение е възможно благодарение на информация, получена по време на обмен за преподавателска мобилност с цел обучение по програма Еразъм+, както и от личния опит на автора като преподавател по чужд език. Докладът представя полезни методи за преподаване и учене на терминология, които да дадат насоки на преподавателите да открият най-удобния, практичен и функционален начин, който да им помогне да подобрят знанията и уменията на студентите от инженерните специалности.

Ключови думи: английски (чужд) език за специфични цели, чуждоезиково обучение, инженерни специалности, методология, терминология

Introduction

Teaching English for Specific Purposes (ESP) is a very special task that university lecturers have to deal with. This is a different level of teaching English and it concerns all aspects of the teaching itself: it affects methodology, the students, the course units, the language and the syllabus (Tahir, 2008).

The experience over the past years has led to the present research in order to find the best and most effective ways to teach a (foreign) special language to engineering students. A related institution from the mining industry – the Technical University (TU) Bergakademie Freiberg is used as a benchmark for this research. The comparison and contrast data was collected during a visit to Germany under the Erasmus+ programme – Staff Mobility for training.

In the beginning, it is necessary to define what ESP is. In a world where business demands more and good qualified

specialists and English language is the basis for professional communication, it is inevitable for universities to follow this trend by providing the best education for their students. The English language is the *lingua franca*¹ for the academic education (Terzieva, Kolarski, 2014). The use of a special language is required in all fields of science: medicine, technology, and engineering. The special language is professionally oriented and aims to deliver students with the appropriate vocabulary in the selected area of work (Hutchinson, Waters, 1987). “The necessity for European citizens to master more than one foreign language is a prerequisite for development of linguistics and a serious challenge for foreign language teachers and scholars in relevant specialties.” (Veselinov, 2014).

¹Lingua franca is a language used for communication between groups of people who speak different languages (Cambridge Dictionary).

The English classes at the TU Bergakademie Freiberg

The comparison was done during the visit at the TU Bergakademie Freiberg, where Technical German and English classes were attended. The present article focuses on teaching ESP. As far as terminology is concerned, the English classes are specific for each course of studies at the TU Bergakademie, Freiberg. This means, students from only one specialty would attend the class, which is held once a week during all 4 semesters, and it is not streamed. Two of the semesters are compulsory, and two are optional. However, all students continue attending the English classes even when they are optional. This form of arrangement has proven itself as the most appropriate for the students at the TU Bergakademie, Freiberg.

The English classes in the 1st year of studies

The English course "Einführung Englisch. Geotechnik und Bergbau" / "Introduction English. Geotechnics and Mining" is taught to the students at the TU Bergakademie Freiberg in their 1st and 2nd semester. A textbook on ESP (Geosciences) with texts and exercises on the specific topics and terminology that come up is used during the classes. The lecturer also prepares handouts especially for the class. An important part of the English classes is the use of multimedia. This is a fine way to show students authentic material – videos, discussions and interviews, which are related to their professional area and will be useful for their professional development. Discussions are organised in class where groups of two or more students are asked to present or debate on certain issues.

Terminology is quite important in the first year of English studies. The lecturer Karin Löttsch presents different strategies when working with text (reading and listening comprehension) and this is done only in English. The aim is to give the students the knowledge they need in order to attend and actively participate in foreign language lectures. They should be able to take notes as they hear the English language. Another significant part of their work during the first two semesters of language studies is to practice writing abstracts. After listening to or reading a text, students are assigned to summarise the information in only a few sentences, *not using the same words as those given in the text*. This is a good way to practice vocabulary, as they have to search for synonyms and use terminology.

The language course is completed by an exam and the students receive a certificate of performance.

The English classes in the 2nd year of studies

The second year of studies (3rd and 4th semesters) builds upon the English course the students attend in their 1st and 2nd semesters. In semesters 1 and 2, the students' terminological vocabulary is developed and tested, whereas semesters 3 and 4 are dedicated more to communication and this is also the basis for the exam. They have to pass a listening exam during the semester, their final exam is on writing and speaking.

The second English class that was attended is dedicated to "Geoökologie" / "Geoecology". Dr. Mark Jacob usually begins with a warmup – a topic that was discussed in the previous class and leads to the new topic. According to the lecturer, it is important for the students to do things that they are familiar with from secondary school. In secondary school, they do not do much translation, so they do not do that much at university

either. This is why the presentation is a good method to practice communication. The lecturer explained that working on presentations is important, as this is part of the life-long learning experience. Hence, the topic of the discussion in class was "how to give a good talk" (Alon, 2009).

Students use the OPAL² platform to register for the presentations. Then, when it is time to prepare for the presentation itself, the students choose a chairperson and a timekeeper for the presentation session, which is organised as a conference. The lecturer sits in the back and discusses their presentations at the end of the class.

In addition, the lecturer makes videos and interviews with foreigners about their life in Freiberg (podcasts) and the students have access to these materials – to listen to and watch. Thus, they have the opportunity to hear different accents and pronunciations. When completing the course in the 4th semester, the students receive a UNICert³ certificate. The English course aims to get students to the C1 level.

The English classes at the University of Mining and Geology "St. Ivan Rilski", Sofia

The foreign language classes are obligatory at the University of Mining and Geology "St. Ivan Rilski", Sofia. Students from two specialties ("Geology and Geoinformatics", and "Computer Technologies in Engineering") study only English language during all 8 semesters of their Bachelor studies. The students from all other specialties can choose one of the following languages and attend classes in a stream: English, German, French, Spanish or Russian. The classes are held once a week during all 3 semesters.

The English classes in a stream during the 1st and 2nd semester of studies

At the beginning of the course, the students take a placement test in English. Thus, lecturers divide students from each faculty in three levels – **A2-B1**, **B1-B2** and **B2-C1**. Different parts of the textbook *Technical English* (2011) are used for each level. The English course in the first year of studies aims to develop students' communicative skills, as well as build up on grammar and enrich the vocabulary they use. This textbook gives a selection of commonly used lexical units with high frequency of use in technical context. Many topics are standard for some specialties, which is good in the case of a streamed group of students from all courses of studies in one faculty. Lecturers use a practical task-based approach and encourage students to develop their knowledge in the foreign language in order to be able to solve different vocational tasks. They work on description of every day activities, professions, processes, installation and equipment, technical support. This helps students integrate new knowledge with prior knowledge during the class.

They are tested at the end of each semester on different aspects of language competence – each lecturer prepares their own tests for the students at the end of the course.

² OPAL is an online platform for academic teaching and learning that offers access to tasks, tests, video content and interactive virtual space.

³ UNICERT (United Certification Services Limited) provides certification with the widest scopes of certification, including quality, environmental, health and safety, information technology, and information security management systems and other popular standards.

The English classes in a stream during the third semester

In the last semester, students discuss terminology, read and translate specialised texts related to the major disciplines taught at the respective faculty. This is a good chance for them to get to know terminology from other areas and not only from their special one. Attending the foreign language classes in a stream provides students with concepts, many of which are common in all specialties. They also are acquainted with more specific terms that are used in different professional fields. The duration of each class gives the opportunity for broadening students' knowledge in terminology.

Lecturers use materials such as scientific articles, textbooks and manuals. The classes include reading and translation of specialised texts, after which students are required to write abstracts on the selected text. They work with dictionaries, additional sources of information, use multimedia and prepare presentations. The lecturers from the Foreign Language Department at the University of Mining and Geology "St. Ivan Rilski" constantly expand the materials and exercises in ESP teaching, e.g. new learning materials were developed and approved several years ago (Purvanova et al., 2014). As the experience of our colleagues at the TU Bergakademie Freiberg also shows, presentations are an effective way to motivate students to do their own research and work with scientific texts. This increases their ability to compare different types of problems and even improves their computer skills when working with PowerPoint/MS Office.

The topics discussed in the English classes cover all specialties represented in the three faculties. Some of the topics of the scientific texts are related to, respectively: for the Faculty of Geology and Exploration: "Mineralogy", "Petrology", "Engineering Geology", and "Hydrogeology"; for the Faculty of Mining Technology: "Minerals", "Open Pit Mining", "Underground Mining", "Geodesy"; for the Faculty of Mining Electromechanics: "Mechanics", "Hydraulic and Pneumatic Equipment", "Mining Equipment", "Electricity Supply and Electrical Equipment".

In addition to that, the lecturers use selected units from the *Oxford English for Electrical and Mechanical Engineering* (Glendinning, Glendinning, 1995) for the engineering students from the Faculty of Mining Technology and the Faculty of Mining Electromechanics. Another textbook that is used is *English for Students of Mining and Geology* (Alexiev, 1985). The students from the Faculty of Geology and Exploration also use some of the topics included in *English for Oil and Gas* (Frendo, Bonamy, 2008).

The exam at the end of the third semester is different from the previous two. Students are expected to be able to read and translate scientific texts, write abstracts and have a good command of the appropriate terminology.

Conclusion

This article aims to give an insight in our colleagues' work at the TU Bergakademie Freiberg. The first part of the research is dedicated to teaching ESP to engineering students, whereas the comparison of FLT in the German classes at the TU Bergakademie Freiberg and the University of Mining and Geology "St. Ivan Rilski" will be discussed in another paper. Comparing the foreign language teaching methodology at the University of Mining and Geology "St. Ivan Rilski" to that at the TU Bergakademie Freiberg gives the opportunity to adapt some useful approaches. The observations show three

methods that are commonly used in the foreign language classes at the TU Bergakademie Freiberg: the direct method of teaching, the audiolingual method, and the communicative approach (Shopov, 2008). Their methods are interesting and it is to be ascertained whether they could be appropriate for the students at the University of Mining and Geology "St. Ivan Rilski", Sofia, where the grammar-translation method and the direct method (Shopov, 2008) are mostly applied. This would involve a more interactive course design, where students are more actively engaged in the teaching process (work in groups, preparation of posters and presentations). Since they already work with multimedia and presentations, the presentation experience could be expanded and the students could be placed in different environments. They do so at the TU Bergakademie Freiberg and it seems reasonable to make the presentation session look like a conference. Thus, students would get familiar with the spoken language, feel free to talk to their partner, and be ready to answer questions at any time. This is highly important in a job interview or later on, at the work place with foreign coworkers.

Students also work on translation and writing abstracts. This could be done in groups. That way, the competition element between the groups will encourage teamwork and motivate the groups for scoring the best results. Different teams write abstracts, use terminology, look for synonyms, then compare, find the best abstract and give reasons why it is the best one. This process involves many aspects: writing, making a list of pros/cons and naming the elements that make a good abstract.

Lecturers aim to provide the students with the best ways and methods to acquire technical knowledge in a foreign language so that they can be better prepared for working in the area of their academic discipline and compete with colleagues from foreign universities and companies.

References

- Alexiev, B. 1985. *English for Students of Mining and Geology*. Ministry of Public Education, Sofia, 189 p.
- Alon, U. 2009. How to give a good talk. – www.sciencedirect.com/science/article/pii/S1097276509007424.
- Bonamy, D. 2011. *Technical English*. Pearson Longman, 127 p.
- Frendo, E., D. Bonamy. 2008. *English for Oil & Gas*. Pearson Longman, 79 p.
- Glendinning, E., N. Glendinning. 1995. *Oxford English for Electrical and Mechanical Engineering*. Oxford University Press, 190 p.
- Hutchinson, T., A. Waters. 1987. *English for Specific Purposes. A Learning-centred Approach*. Cambridge University Press, Cambridge, 183 p.
- Purvanova, M., V. Panichkova, M. Papazova, M. Hristova. 2014. Razrabotvane, aprobirane i izpolzvane na novi uchebni materialy pri obuchenieto po spetsializiran chujd ezik v MGU "Sveti Ivan Rilski". – *Annual of the University of Mining and Geology "St. Ivan Rilski"*, 57, 4, 97–103.
- Shopov, T. 2008. *Chujdoezikovata metodika*. Universitetsko izdatelstvo "Sv. Kliment Ohridski", Sofia, 116 p. (in Bulgarian)
- Tahir, M. M. 2008. English for Specific Purposes (ESP) and syllabus design. 97–131.
- Terzieva, S., V. Kolarski. 2014. Research on the need of engineering students for professional English. – *Chujdoezikovo obuchenie*, 41, 4, 369–377.
- Veselinov, D. 2014. – *Chujdoezikovo obuchenie*, 41, 1, 7-8.