

УДК811.111:378.147.091.3

## **On Peculiarities of Teaching Technical English at Different Levels of Instruction at a Technical University**

**Tamar Mebuke**

Georgian Technical University

### *Аннотация:*

Развитие умения самостоятельной работы со специальным текстом на иностранном языке и его перевод на родной язык являются основной целью преподавания иностранных языков в технических вузах. Эти навыки дают студенту возможность быть в курсе последних достижений науки, поддерживать профессиональные связи с коллегами во всем мире и заниматься исследовательской работой на современном уровне. В статье рассматриваются особенности преподавания английского языка на бакалавриате и в магистратуре технического университета.

### *Текст доклада:*

Technical Universities prepare their students for work in various fields of engineering. Rapid development of modern technology, together with the process of globalization, posit their demands and requirements on young specialists. Works about new technological advancements, inventions, discoveries and new interpretations of existing phenomena are usually reflected in publications. As most of the publications nowadays are in the English language, technical progress and professional connections with foreign partners require knowledge of the language. Consequently, the need for Technical Universities is to give their students adequate level of English language knowledge that will enable their graduates to meet the needs of the modern work market and be competitive at it, which is impossible without substantial work at the language together with developing appropriate theoretical knowledge and practical skills which are necessary for young engineers to perform their work competently.

The ability to implement innovations in work requires highly qualified professionals, whose level of expertise depends on the level of education they receive at universities. One of the essential skills for young specialists is the ability to be up to date with recent innovations in their fields of study and work, and, consequently the ability to read, translate, process and disseminate information about recent advances, as well as to use them in their work. This information is found in the latest scientific journals, annotations, directions for exploitation of various devices, patents and their descriptions, and other materials and documents connected with research, business, commercial activities, and professional communication.

Thus, the work on English language for specific purposes, and technical translation in particular, can be seen as one of the most important constituent parts of education of future engineers, which develop in them much more important abilities than just language skills. Special emphasis of English language courses at Technical Universities should be on technical translation. As the object of translation is thought, and the result of it are a written message and a deduction, the work of a translator may be seen as a combination of critical and creative thinking [1]. Critical thinking is directed towards analyzing pros and contras, or strong and weak points of suggested ideas, while creative thinking is directed towards inventing something new. Three stages of translation: text analysis, translation, and editing help students not only to perfect their knowledge of the language and translation skills, but also to learn to follow logical thread of critical and creative thinking.

However teaching technical translation is not an easy task. The research suggests [2] that the factors that hamper work on technical translation include: lack of skills of text analysis, problems with choosing appropriate methods of translation, and inadequate knowledge of the subject matter of the text for translation. Inability to understand special texts is attributed not only to the lack of special knowledge at the early stages of education, but also to the lack of skills of information search and adequate way of reasoning.

Technical translation should be taught at all levels of education at Technical Universities. The work on translation should begin at the bachelor level with explanation of lexical, semantic, grammar and style differences of the native and target languages with consequent studies of theoretical and practical basis of technical translation. An important part of translation studies is appropriate selection of texts for translation that should reflect the needs and peculiarities of the fields of engineering in which students will specialize [3].

Theoretical studies should deal with peculiarities of scientific and technical terminology, relevant and irrelevant usages of special terms, their structural and semantic peculiarities, analysis of lexical properties of scientific and technical terms, and means of their formation.

During practical course of technical translation the emphasis is on overcoming various difficulties in translation from the source language into the target language and vice versa, and on mastering skills of technical translation and methods of lexical, semantic and grammar transformations that are used in it. The aim of the instructor is to teach students the basics of technical translation which they will be able to use in their future, profession connected work. Development of new skills should go along with the development of logical reasoning, ability to accept alternative decisions, and tolerance of opinion of the others [4].

Instructors should stimulate students' interest in translation by choosing relevant texts for translation which reflect an increasing level of difficulty of translation problems and the scope of technical terms from the subjects that are associated with general studies of their students. As technical English is wide in its scope and embraces many spheres of human activity, it is impossible to know terms from all disciplines. That is why students should be taught technical English that is applicable to their future profession. Correct selection of texts for translation will foster not only development of skills of technical translation, but also the ability of logical, scientific reasoning and creative work.

Though teaching technical translation has become a must for Technical Universities, studies revealed[4] that there are certain difficulties that should be considered in advance, such as poor knowledge of the English and native languages, style peculiarities of technical documentation and articles, and means of automatic translation. As in most cases students have to translate technical texts from English into a native language, it is important to have a good knowledge of both languages, as well as a feeling of style that is characteristic to technical and scientific literature. For this purpose incorporation into programmes of special courses on stylistics seem to be desirable.

As a way of learning stylistic and language peculiarities of technical literature a method of text modeling was suggested that combines both text analysis and synthesis. Text modeling involves composing a text that resembles in style and genre a text for translation. Work should start with texts of general content, e.g. with popular science texts, which will make the work more interesting and help students to develop skills for translating special texts. Work consists of: 1 choosing a text of appropriate content and level in the English language, 2 lexical, syntactic and stylistic analysis of the text and of a comparable text in the native language, 3 modeling a similar text in the native language according to previously revealed properties, 4 identifying translation problems in the source text, 5 doing written translation of the text into the native (target) language.

It is advisable to choose a theme for text modelling that is slightly different from that of the text for translation. The method of modelling should be implemented at an early stages of work at technical translation when students work with texts of general technical content.

Teaching technical translation should continue at the post-graduate level as a part of foreign language courses, as the knowledge of a foreign language is nowadays considered to be a part of general competences of Masters in all sciences. Post graduate students will need foreign languages for deepening their knowledge of special subjects, doing research, writing Master's papers and theses, getting employment, in business, professional, and private communication. Consequently, the aim of foreign language teaching at post-graduate courses at Technical Universities is to develop students' ability to meet

all the above mentioned demands that they will come across in future work. Courses of technical translation should have the aim of developing skills necessary for reading the latest scientific articles from foreign periodicals, writing papers for publication in foreign journals, translating articles from the native language into English and vice versa, and ability to present and discuss papers at international conferences and symposiums [5].

Because of the gap in the studies between bachelor and post graduate levels, which due to the existing programmes lasts for two years, English language courses at the post-graduate level should begin with the revision of previously acquired knowledge. They should include a brief revision of grammar and general vocabulary, which will help to proceed to the study of the English language for specific purposes. Knowledge of the English language for specific purposes includes vocabulary from a definite field of science in which the students major, the knowledge of which will enable them to write and review papers and theses, and translate articles from the latest publications. At the same time the courses should include developing skills for writing resumes and cover letters, responding and asking questions at interviews, conducting oral and written communication after getting employment.

Special attention should be paid to developing skills of oral communication that the graduates will need for making presentations at the conferences and during profession-connected conversations, such as an interview with an employer and oral negotiations. Grammar part on the studies must contain constructions that are most likely to be used during written and oral communication and work at technical translation. Grammar skills are also developed during work on technical translation when students learn similarities and differences of language structures of the source and target languages and peculiarities of their implementation and function in scientific and technical literature, the best ways of their translation from one language into another. To achieve fluency students have to revise respective grammar rules, have a substantial vocabulary of special terms and expressions, and master skills of work with a text in a foreign language.

In this way post-graduate students enlarge their knowledge of the language and acquire practical skills of work with a text in a foreign language. Work on translation should be focused on specific to the future profession texts with emphasis on the quality of translation. Students should be aware of the requirements for a good translation, such as: translation should meet the standard norms of a literary language, correspond to the style of scientific and technical writing, and adequately convey the meaning of the source text [6].

Texts for translation should be authentic articles on the field of study in which the students major. Such articles are widely available on internet and post-

graduate students need to acquire a skill of finding relevant information from all available sources, process and translate it.

Technical and scientific texts generally contain a large number of terms – special words and word combinations used to denote definite notions in a given field of science. Correct translation of such terms is possible when a person understands their meanings and the notions they represent. That is why the choice of technical texts for translation should be based on the subjects the students study. If a student clearly understands the subject matter of the article he/she has to translate and is acquainted with the respective terminology in the native language, he/she will have no difficulty in understanding, and even guessing the meaning of many special terms in the source language. Acquiring this knowledge is impossible without reading a lot of special literature in both the source and the target languages, which students must clearly understand. Special attention should be paid to terms that consist of more than one word, to abbreviations and acronyms that are widely used in special texts. Students should be taught the skills of work with special dictionaries and on-line sources in order to find their meanings.

Instructors often erroneously suggest that modern students are proficient in information technologies and electronic search systems. However, ability to use social networks and Internet does not presuppose the ability to work with search systems. To develop this ability, special tasks on information search on a definite theme should be assigned. Such tasks may include search of factual information and its discussion. Students also ought to be given advice on trustworthy search systems and sites. They must have general knowledge about QA (Quality Assessment) Programmes and TM (Translation Memory) Programmes. At the post-graduate level of education students should be taught to work with these programmes. TM programmes are based on storing in computer memory recurrent text segments – collocations, phrases, sentences with existing options of translation which can be used in case of their repetition in other texts for translation. Some texts, for example patents, have a high percentage of repeated collocations and terms (up to 50%) that may be used to facilitate the work of a translator.

Students should also be taught to work with the means of automatic translation, such as MT (Machine Translation) and CAT (Computer-Assisted Translation). Introduction of special courses for teaching work with such programmes[7] seems to be a good idea. Internet, that embraces all spheres of human activities, should be included in the courses of technical translation. A wide range of online dictionaries, as well as many educational programmes are available via Internet, which can help students while working on translation, on condition that they can use them competently. Information and communication technologies are being included into educational process everywhere in the world, however

their advantages should be carefully studied so that students can benefit from them.

Composing a glossary based on thematically connected special texts is another way of mastering information search (Ibid.). Students learn to find special terms in their field of engineering from specially selected papers (articles) and realize the role of context for translation. This information search should be done based on the theme of the paper that the students will later have to translate.

Special way of translator's reasoning is developed in the course of studies as students learn to see the situation (or context) behind the text, and its correlation with a definite communicative situation; ability to define the aim of translation and possible expectations of the putative readership.

Another aspect of work on teaching technical translation is teaching peculiarities of the style of technical literature and documentation. For this purpose a method of comparison of an original text in the source language and its existing translations into a target language has been suggested [8]. During these comparative studies, students mark in the source text the most difficult fragments and discuss with their instructors possible ways of their translation, comparing their results with the existing translation, made by an experienced translator. Special attention should be paid to such qualities of a good technical translation as conciseness, clarity and unambiguity.

It is recommended to teach technical translation according to the types of texts, and not according to their content. This is because the number of text types is limited, and most of them have their own peculiarities of structure. These types of structure may be considered as stable elements for the purpose of education. At the beginning of courses, most of the work with technical texts should be done with texts of general technical content. However, further work on teaching technical translation should be based on a variety of special texts, which will serve the purpose of enlarging students' knowledge of special vocabulary, as well as developing translation skills.

Development of ability to work independently with special texts in a foreign language and translate them represents the main aim of the course in technical translation for post-graduate students. This ability will give students an advantage of always being up-to-date with the latest achievements in their fields of study, maintaining meaningful professional communication with foreign colleagues, and conducting research and independent work at a modern level. Competent technical translation is based on good knowledge of both source and target languages, good translation skills and background knowledge of the field of translation[9]. Post-graduate students should be competent and well-read in the texts on their profession in both languages in order to translate special texts relevantly and have the ability to express complex technical notions in a clear and understandable language. Good knowledge of terminology in the native

language and the subject matter of special texts will help them in acquiring translation skills. In view of the above said, technical translation may be regarded as a course of studies that represents an important part of professional education that fosters development of modern, high-level competences in post-graduate students.

To sum it up, teaching technical English at Technical Universities is a complex process that serves multiple purposes. The most important of them are: fostering the development of students` the ability to understand and process relevant for their profession information, use it for any type of profession-connected work, disseminate it among the colleagues, and be able to take an active part in modern technological development in a respective field of engineering.

### Bibliography

1. Давдян, А.С. Инновационные методы в обучении письменному переводу научно-технических текстов. Филологические науки. Вопросы теории и практики. ТамбовЖ Грамота, 2017 № 5 (71): в 3-х ч. Ч.3 с.183 <https://cyberleninka.ru/article/n/innovatsionnye-metody-v-obucheniipismennomu-perevodu>
2. Николаева, О. С. Методика обучения переводу научных текстов на основе учета этимологической составляющей терминов: автореф. дисс. ... к. филол. н. М., 2010. 20 с.
3. Джандоева, П.В.Методика обучения научно-техническому переводу*Харьковский гуманитарный университет «Народная Украинская Академия» (ХГУ «НУА»)*  
2007[www.rusnauka.com/18\\_NiIN\\_2007/Philologia/22781.doc.htm](http://www.rusnauka.com/18_NiIN_2007/Philologia/22781.doc.htm)
4. Жапарова, Т.Е. Проблемы и их решения в обучении техническому переводу студентов- бакалавров Вестник КазНПУ, Алматы 2015
5. Жаринова, Е.Г. Проблемы обучения научно-техническому переводу студентов-магистрантов технического ВУЗа // Интернет-журнал «Мир науки» 2016, Том 4, номер 6 <http://mir-nauki.com/PDF/49PDMN616.pdf>
6. Анисеева, И.Г. Условие формирования готовности студентов к переводческой деятельности. Сборник научных трудов Международной научно-методической конференции. Ответственный редактор Т.И. Руднева. 2014 Издательство: Самарский государственный университет. Самара.
7. Кутузов, А. Б. Компьютерные технологии в формировании профессиональной компетенции переводчика // Языки профессиональной коммуникации: сборник статей участников Третьей международной научной конференции. Челябинск: Энциклопедия, 2007. Т. 2. С. 244-250.

8. Шалыт И.С. Обучение переводу технической документации <http://www.trpub.ru/articles/obuchenieperevodu>

9. Климзо, Б.И. Ремесло технического переводчика. – М.: “Р. Валент”, 2006 – 508 с.

УДК 811.111:378.147.091.313:004.9

### **Перспективы использования массовых открытых онлайн курсов в обучении английскому языку**

Молчан О.К., Слесарёнок Е.В.

Белорусский национальный технический университет

#### *Аннотация:*

В статье рассматривается возможность применения англоязычных массовых открытых онлайн курсов в рамках дисциплины «Английский язык» в неязыковом вузе. Анализируются требования, предъявляемые к онлайн курсам; приводится алгоритм работы преподавателя и студентов.

#### *Текст доклада:*

Развитие дистанционного образования и технологический прогресс позволили значительно расширить свободный доступ к образовательным ресурсам с целью дальнейшей демократизации высшего образования, а также создания открытого образовательного пространства. Основная роль в данном процессе отведена так называемым MOOK, то есть массовым открытым онлайн курсам (от англ. MOOC – MassiveOnlineOpenCourses). Огромное количество курсов разработано специально для изучения иностранных языков. Одна из ведущих платформ MOOK – UdeMy – предоставляет выбор из более чем 1000 курсов для изучающих английский язык. Такое многообразие высококачественных ресурсов, подготовленных специалистами ведущих университетов, безусловно, не может не радовать. Разработчики MOOK верят, что именно онлайн курсы помогут решить назревшие проблемы в сфере образования.

Действительно, MOOK обладают целым рядом преимуществ в сравнении с более традиционными формами организации учебного процесса в вузе. Во-первых, слушатели массовых онлайн курсов получают ценный учебный опыт: начиная от видео-лекций и проверочных тестовых заданий, разработанных престижными университетами, и заканчивая возможностями сотрудничества и установления деловых контактов через многопоточные дискуссионные форумы и другие технологии Web 2.0. Применение MOOK при обучении иностранным языкам попутно знакомит