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FORMATION OF FUTURE TECHNICAL AND TECHNOLOGICAL SPECIALISTS' TRANSLATION COMPETENCE BY MEANS OF ICT

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The article deals with the importance of the use of didactic possibilities of information technology, the embodiment of which is information-educational environment, and the formation of foreign language knowledge and skills in the context of the curriculum of technical and technological professions, creating the best educational conditions for the development of modern specialists' key competencies.

Significant potential has trained future specialists of technical and technological professions to implement technical translation, because «translators should possess not only a pure language» and translation competences, but also to understand the specifics of their profession, «own conceptual base of speciality, and know what the text reads».

The traditional approach to the translation competence formation for technical and technological specialists (TTS) was to study the course of translation aimed at technical translation, which was basic and studied by all students, regardless of the profile of training and learning technologies of specific industry.

We believe that to improve information and translation element of integral training of future TTS it is essential to use variable content of education, which aims to expand and specificate the basic knowledge and skills. The article proposes to consider a possible model curriculum on the subject «Technical Translation» for future technical and technological specialties and offers ICT tools (machine translation, CAT tools, Internet) that should be used in preparation for this activity.

Key words: translation competence, technical translation, technical and technological specialties, machine translation, ICT tools, means of ICT, curriculum

Introduction

Ukraine's participation in the Bologna process led to the need for fundamental changes in the purpose, objectives and content of the educational process in higher education institutions. Now, we are witnessing the European integration of higher education, not only in terms of theory and methodology, but also in educational and cultural level of future specialists, defined by the European Council as a list of major skills that are necessary for a modern person. These skills are called key competencies: communication in the mother tongue; communication in foreign languages;



competence in science and technology; information competence; interpersonal, intercultural, social and civic competence; cultural and creative expression; the ability to learn; adaptability and mobility.

Therefore, one of the ways to update the content of education, and to integrate into the world educational space is orientation of training programs to acquiring key competencies and creating effective mechanisms for their implementation (V. Redko, I. Zymnya, S. Nikolayeva, O. Ovcharuk, A. Hutorskyy, S. Yashchuk, etc.).

That is, the priority for the modern national education system should be the competences, which are both the elements and the results of the training activities. This is the main idea for the scientists, V. Andruschenko, I. Yermakova, V. Kalinin, S. Maksymenko, V. Sydorenko, N. Nychkalo, L. Sohan, who state that, it is not possible for the competent specialist, who does not have the necessary for his profession competences, to fully realize himself in socially significant aspects.

According to the Ukrainian scientists, S. Kolomiets and A. Demidenko «humanitarian component is a prominent factor in the formation of these competencies in technical faculty or University», which, in turn, «necessitates clarifying the role of foreign language (English) in addressing this highly topical issue» [2]. Thus, in our view, the importance of setting goals of future specialists of technical and technological specialties (TTS) linguistic training, including the technical translation, is provided by modern socio-economic conditions, and characteristics of the state which is developing, resulted by the transition of humanity to new techniques and technologies, the growth of knowledge and its application for the benefit of a man. The mentioned above caused the topicality of this article because the application of didactic possibilities of information technology, which is embodied in information-educational environment, resulting from the interaction of the educational process and information-educational space/design. The formation of foreign language knowledge and skills in the context of technical and technological curriculum creates optimal educational conditions for the development of key competencies of modern specialist.

The training of future professionals of technical and technological specialties for putting into practice technical translation has significant potential, in terms of the formation of such skills, because «interpreters should possess not only a pure language», translation competences, but also to understand the specifics of their profession, «to own conceptual base of specialty» [2].

The specialists for this field are trained in about 20 Ukrainian higher education institutions of III-IV accreditation levels. They are Drohobych State Pedagogical University named after Ivan Franko (Engineering and Education Faculty), Poltava National Korolenko Pedagogical University (Faculty of Technology and Design) Pereyaslav-Khmelnytsky Pedagogical University named after Grygoriy Skovoroda (Educational and Industrial Engineering Faculty), Vinnitsa State Pedagogical University named after Mykhailo Kotsiubynsky (Educational and Industrial Engineering Faculty), National Pedagogical Dragomanov University (Engineering and Education Faculty) and others.

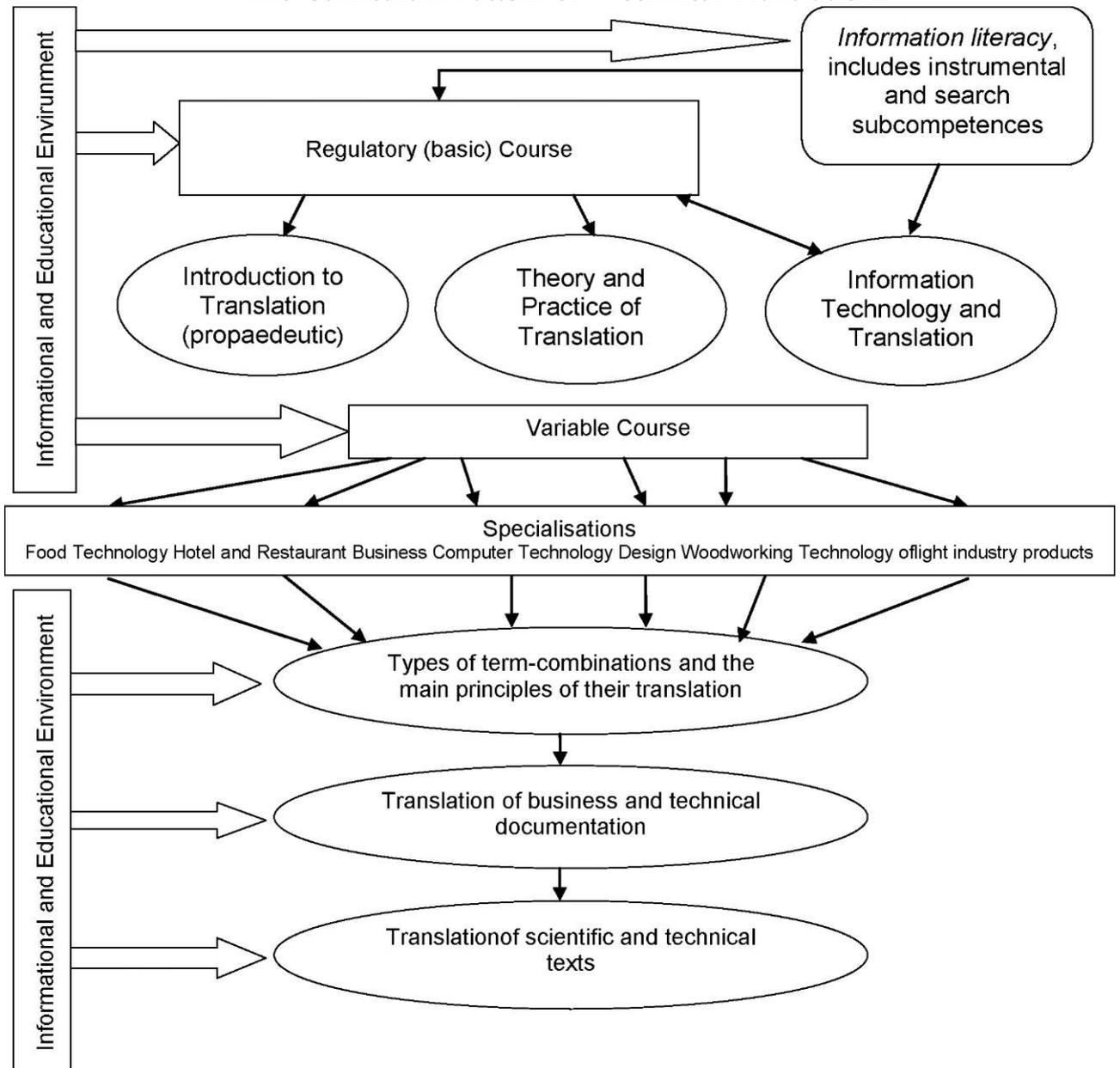
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aimed at technical translation, which was basic (regulatory) and learnt by all students, regardless of the profile of training and learning technologies of specific industry.

We believe that in order to improve information and translation component of training of future TTS specialists it is essential to apply the variable content of education, which aims to expand and flesh out the basic knowledge and skills. The analysis of our own teaching practice shows that in training future TTS professionals it is advisable to preserve the traditional approach with the addition of modern innovative technology, the first of which is the use of information and educational environment of the University, which offers many options for using information and communication technologies (ICT) (See. The Curriculum Pattern (model)).

The Curriculum Pattern of «Technical Translation»



The first invariant level should include basic knowledge of the theory and practice of translation. It is compulsory for all future TTS professionals. It should be,



first, an introduction with information about the basics of Translation. This introductory (propaedeutic) preparation cycle is chosen because the aim of this phase is to supply the student with the essence of translation activity, «to work out basic operations and actions that will be needed in the study of the basic course» [1]. It is compulsory because secondary school has no special lesson where students can get knowledge about the basics of translation. The content of the second part of the subject on regulatory (basic) level should include consideration of the following categories: Translation as a Kind of Interlingual and Intercultural Communication; The Main Stages of the History of Translation and Translation Science; The Theory of Levels of Equivalence; The Concept of Translation Units; Types of Context and its Impact on Translation; Basic Methods and Procedures of Translation; Types of Translation Transformations; Grammatical and Lexical Transformations and so on.

The compulsory subject should also include «formation of computer knowledge and skills at the level of the qualification requirements of ECDL (European Computer Driving License), and the skills of special software class CAT» [2]. The pedagogical observations show that the efficiency and quality of learning the subject «depends on the ability to manage ICT, which must be formed in advance, i.e. outside the training activities to be performed by students using these means according to the teaching objectives» [3]. Let us consider on the opportunities offered by ICT in training future TTS professionals for such activity as translation. There are different ways of how to use computer technology in the translation and they should be put into education programs of training future technical and technological professionals, either as part of regulatory course, or as a separate discipline:

1. Machine translation (MT) is a process whereby a computer program analyses a source text and produces a target text without human intervention. In reality, however, machine translation does involve human intervention, in the form of pre-editing and post-editing. With proper work, machine-translation tools can produce useful results, especially if the machine-translation system is integrated with a translation-memory (TM) or globalization-management system (GMS). Machine translation is available through tools on the Internet such as Babel Fish, Babylon, and StarDict. They produce a rough translation that «gives the gist» of the source text. There are also companies like Ectaco which produce pocket translation devices that utilize MT.

2. Computer-assisted translation, computer-aided translation, or CAT is a form of language translation in when a human translator uses computer software to support and facilitate the translation process. Computer-assisted translation is sometimes called machine-assisted, or machine-aided, translation (not to be confused with machine translation). Computer-assisted translation is a broad term covering a range of tools. These can include:

> *Spell checkers*, either built into word processing software, or add-on programs.

> *Grammar checkers*, again either built into word processing software, or add-on programs.

> *Terminology managers*, which allow the translator to manage his own terminology bank in an electronic form. This can range from a simple table created in



the translator's word processing software or spreadsheet, a database created in a program such as FileMaker Proor, for more robust (and more expensive) solutions, specialized software packages such as LogiTerm, MultiTerm, Termex, etc.

> *Electronic dictionaries*, either unilingual or bilingual.

> *Terminology databases*, either on the host computer or accessible through the Internet, such as TERMIUM Plus.

> *Full-text search tools* (or indexers), which allow the user to query already translated texts or reference documents of various kinds. In the translation industry one finds such indexers as Naturel, ISYS Search Software and DTSearch Desktop.

> *Concordancers*, which are programs that retrieve instances of a word or an expression and their respective context in a monolingual, bilingual or multilingual corpus, such as a bitext or a translation memory.

> *Bitext aligners* are tools that align a source text and its translation which can then be analysed using a full-text search tool or a concordance.

> *Project management software* that allows linguists to structure complex translation projects, assign the various tasks to different people, and track the progress of each of these tasks.

> *Translation memory tools* (TM tools), consisting of a database of text segments in a source language and their translations in one or more target languages [6, 7].

3. The Internet. Web-based human translation remains the most reliable, most accurate form of translation available, that's why it is generally favoured by companies and individuals all over the world, especially with the recent emergence of translation crowdsourcing, translation-memory techniques, and modern internet applications. This kind of translation is popular as a solution for relatively fast, accurate translation for business communications, legal documents, medical records, software localization and so on.

As we have mentioned above, we think appropriate to divide regulatory content of the discipline into two components: Introduction to Translation and Theory and Practice of Translation. Thus knowledge of translation theory will be introduced «gradually and students will be able to adapt to the terminology and complicated topics» [5].

Another variable part of TTS students' preparation to the translation activity should be determined according to future jobs, specialisation and profile. So, if future TTS professionals have chosen specialization «Food Technology» and «Hotel and Restaurant Business» or «Woodworking», a correspondent course on professional terminology should be introduced, which may include *general professional terms*, *special professional terms* and *narrow specialized professional terms*. Also, in this section, *types of term-combinations* and practical work with *terminological dictionaries* should be studied.

And, as in the regulatory part of the course, particular attention should be given to the role and place of information - computer technologies in professional technical translation, i.e. in the variable part of the discipline, whose main aim is to use ICT in preparation for professional translation, further development should receive instrumental (technical) and search (research) subcompetences because translation competence includes knowledge of translation general principles and



skills to implement it creatively using available tools and technologies. We want to emphasize that the last two subcompetences will gradually improve through the implementation of special (problem, purely professional) tasks with using and searching the necessary information in an informational educational environment, but it will be efficient and effective only with the presence of a certain level of information literacy.

Conclusions

So, it is clear that information technologies are actively involved in the process of modern translation which includes the use of personal computers, email, File Transfer Protocol - FTP, Web site design, search engines, database clouds, DTP, graphics and word processing and more. And this is only the specific tools. If we add here the translation memory tools, terminology control system, concordance tools, machine translation, project management applications, tools of localization and quality assurance, the list of topics related to translation, and therefore, recommended for inclusion in the curricula will be more complicated. The presence of a large number of tools and instruments require more detailed investigation in terms of their organization and the impact on teaching and educational process of translators' training.

But in general, the introduction of Information and Communication Technologies (ICT) in the educational process directs us to reviewing traditional forms of educational work, including lectures, seminars and testing forms of education, allows us to increase the volume of research educational tasks, transforming the very system of technical translation professional training: methods, tools and forms of training, which, as we have seen, have a direct impact on its content.

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