

MODERN MEANS OF STUDENTS' FOREIGN LANGUAGE TRAINING OF TECHNICAL HIGHER EDUCATION INSTITUTIONS OF UKRAINE

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Short introduction. The article presents the interpretation of the concept «students' foreign language training of technical institutions», which is considered as a complex process of forming by the means of a foreign language the ability of future specialists of technical industries to perform highly effective understanding and interaction with foreign interlocutors (in Ukraine and abroad) for personal and professional purposes, in written and oral forms, the ability to analyse and use various scientific and technical information presented in English-language sources of relevant fields for their usage in professional activity, the ability to use various dictionaries (printed and electronic) and more.

It has been emphasized that the implementation of modern means of foreign language training for students of technical higher education institutions helps to build the educational process on such principles as: continuity of education; accessibility and individualization; consistency and systematicity; virtualization, etc.

Various modern teaching means such as audio-visual and technical have been presented and analysed.

Advantages of modern means implementation of students' foreign language training of technical higher education institutions of Ukraine in the educational process have been characterized.

Key words: *education means, technical education means, students' foreign language training, students' foreign language training of technical higher education institutions of Ukraine.*

The research problem. Modern transformational processes of reforming students' foreign language training of technical higher education institutions in Ukraine are primarily related to the modification of the geopolitical situation both in the world in general and in Ukraine in particular.

Regulation of issues related to students' foreign language training of technical higher education institutions of Ukraine is carried out in accordance with the Laws of Ukraine «On Education» (2017), «On Higher Education» (2014), «On Professional Education» (1998), «Recommendations No. R (98) 6 of the Committee of Ministers of the Council of Europe Committee Concerning Modern Languages» (1998), «On the National Doctrine

of Educational Development» (2002), «About the National Program for Informatization» (1998), «the Pan-European Recommendations on Language Education» (Strasbourg, 2003), «English for Specific Purposes (ESP) National Curriculum for Universities» (2005) and others.

The requirements for future professionals' foreign language training have been represented in «English for Specific Purposes (ESP) National Curriculum for Universities» (2005), which is recommended by the Ministry of Education and Science of Ukraine, which states that to obtain a bachelor's degree, together with all other professional skills, a student must be able to communicate effectively in English in a professional environment in order to discuss educational and specialization issues with a view to reach understanding with interlocutors; to prepare for public speeches on a number of industry-specific issues, using appropriate verbal communication tools and adequate forms of discussion and debate; to find new text, graphic, audio and video information contained in English-language industry materials (both in print and in electronic form), using the appropriate search methods and terminology; to analyse English-language sources of information to obtain the data that need to perform professional tasks and make professional decisions; to write professional texts and documents in English on a number of sectoral issues; to write business and professional letters, demonstrating intercultural understanding and prior knowledge in a specific professional context; to translate professional English texts into their native language using bilingual terminology dictionaries, electronic dictionaries and translation software of Ukraine [9, p. 3].

The importance of such future specialists' training is emphasized by many scientists. In particular, N. Ivasiv points out that fluent communication in a foreign language provides opportunities for creating business, professional and cultural contacts, contributes to improving the overall cultural and professional level of personality development [7, p. 22].

Therefore, the issue of students' foreign language training of technical higher education institutions of Ukraine is a complex, multicomponent task that requires urgent action to solve it, due to the fact that it depends on the full functioning of specialists in the modern globalized space, in particular their highly effective foreign language interaction in written and oral forms with foreign interlocutors (in Ukraine and abroad), the ability to analyse and use various scientific and technical information presented in English-language sources of relevant fields for their usage in professional activity, the ability to use various dictionaries (printed and electronic) and more.

The processes of future specialists' socialization, their professional and personal self-realization, their mobility and rapid adaptation to the new challenges of modern society (life-long learning, academic and professional international mobility, cooperation in educational, scientific, industrial and other fields with domestic and foreign partners, competitiveness on the labour market, etc.) depend on the level of organisation of students' foreign language training of technical higher education institutions.

Taking into consideration all the above-mentioned issues that have been faced with the improvement of students' foreign language training of technical higher education institutions of Ukraine at the beginning of the XXI century, there is an urgent need to find new effective means for its implementation.

Analysis of current research and publications related to the problem. A significant contribution to the study of key issues related to foreign language training was made by O. Bihych, N. Borysko, M. Buriak, O. Zabolotska, I. Zadorozhna, O. Karpova, V. Krasnopolskyi, O. Misechko, S. Nikolaieva, O. Tarnopolskyi, V. Chernysh and others. The problem of students' foreign language training of non-linguistic majors was devoted to scientific researches by Ye. Hitman, R. Hryshkova, Yu. Dehtiarova, N. Zakharchenko, L. Lazorenko, N. Mykytenko, O. Oliinychenko, M. Palasiuk and others. The usage of different means for students' foreign language training has attracted the attention of such scholars as T. Korobeinikova, N. Maiier, O. Ponomarova, R. Rusnak and others.

The research purpose conducted within the framework of the article is to study modern means of students' foreign language training of technical higher education institutions in Ukraine.

Statement of basic material. First of all, it is necessary to consider the interpretation of the concept of «foreign language training» by scientists.

Thus, Ya. Bulakhova considers the concept «students' foreign language training of technical higher education institutions» as a process of mastering such skills and abilities as reading and understanding technical text in a foreign language without the help of a bilingual specialized dictionary; development of the technical specification for the equipment and comments on the chart / diagram; writing a scientific article; working out and representation of presentations and reports on their scientific activities; that is, the readiness of the graduates of technical higher education institution for practical knowledge of a foreign language at the level of free professional communication with foreign colleagues [2, p. 10].

According to I. Zadorozhna, future specialists' foreign language training of different majors implies consideration of: specifics of their further professional activity; requirements for specialists' foreign language proficiency; peculiarities of training in relevant higher education institutions; students' age characteristics; rapidly changing labour market needs; freshmen's different level of foreign language proficiency [6, p. 99].

To the requirements that must be taken into account for the effective mastery of a foreign language as a component of students' professional training of technical universities, Ya. Bulakhova relates the orientation of the teaching system to the formation in students of the systemic vision of the subjects studied; flexibility and variability of content, taking into account the needs of education and individuals; humanization of technical education; orientation on mastering new information technologies; providing a future specialist's methodological, specialized scientific and professional competence [2, p. 10].

In our research, the concept «students' foreign language training of technical institutions» is considered as a complex process of forming by the means of a foreign language the ability of future specialists of technical industries to perform highly effective understanding and interaction with foreign interlocutors (in Ukraine and abroad) for personal and professional purposes, in written and oral forms, the ability to analyse and use various scientific and technical information presented in English-language sources of relevant fields for their usage in professional activity, the ability to use various dictionaries (printed and electronic) and more.

For the qualitative future specialists' foreign language training, it is necessary to create appropriate conditions, among which the prominent role is given to the use of different training means.

The concept of «education means» is considered, on the one hand, as an auxiliary material tool in higher education institutions, which performs specific didactic functions. The main task of education means is to ensure the educational goal by including, activating a student's various cognitive abilities [4, p. 109]. On the other hand, the famous Ukrainian scientist M. Fitsula in his textbook «Pedagogy of Higher Education» (Kyiv, 2010) distinguishes them as a set of objects, ideas, phenomena and methods of action that ensure the implementation of the educational process.

O. Tarnopolskyi, M. Kabanova to foreign language education means include everything that is used as a tool for such learning, achievement of its goals, assimilation of content and implementation of methods and techniques in the given organizational forms of the educational process [10, p. 163].

According to E. Azimov and A. Shchukin, education means are a set of manuals and technical devices by which the activity of language training teacher and the activities of those who master it are carried out. Scientists rightly point out that education means facilitate the process of mastering the language and make it more effective. They distinguish two groups of education means:

- 1) audio-visual (auditory (audio), visual, audio-visual (sound-visual)) means;
- 2) technical (sound-technical, light-technical, sound-light-technical) means [1, p. 291-292].

Mechanical, electrical, electronic or other means, tools of pedagogical activity with the help of which the goals of training are realized, belong to the technical means of training [8, p. 10]. A. Hurzhii, R. Hurevych, L. Konoshevskiyi, O. Konoshevskiyi classify modern technical training means into five groups [8, p. 12-14]:

The first group covers «educational information transmission means» aimed at disclosing and transmitting to students the content of disciplines and other information through audio, projection and audio-visual equipment.

The second group includes «knowledge control means» using devices to quickly get information about the level of assimilation of the information transmitted.

The third group consists of «training education means» that are designed to develop practical skills in performing logical tasks, learning foreign languages, etc.

The fourth group of technical means are «auxiliary education means», which save time and promote the culture of teaching, as well as devices for servicing educational information, monitoring tools and simulators.

The fifth group includes «combined education means» created on the basis of personal computers and permitting several functions to be performed at the same time.

O. Tarnopolskyi and M. Kabanova identify technical training means with: audio materials; videos that are demonstrated through relevant modern technical devices; videos that are displayed with the help of videocassette recorders (VCRs); slides, photographs, diagrams, drawings, inscriptions, tables displayed through technical devices; materials and information represented by means of computer; materials submitted through mobile devices. The authors emphasize the importance of using video materials that help to demonstrate through appropriate modern technical devices foreign language programs, TV shows, films, short videos and others. They notice that a computer is probably the main technical means of learning nowadays with the help of which all kinds of materials can be represented. It has been noted that materials provided through mobile devices such as smartphones, tablets have the same capabilities as computers and they are used in foreign language learning in the same way, to solve the same problems as computers [10, p. 164-165].

In the process of teaching English to students of non-philological majors, M. Hryshkova proposes to fill teaching means with authentic didactic materials [5, p. 188-189].

Ya. Bulakhova notes that modern multimedia programs give an opportunity to create an optimal learning environment for the realization of foreign language training due to their extremely wide range of technical capabilities that contribute to the realization of the most diverse types of educational activities such as: registration, gathering and accumulation of information, interactive dialogue, control of real objects, screen image, automated control [2, p. 10].

V. Hamaniuk believes that for the foreign language training the most essential information and communication tools are: ICQ, Skype, chats, e-mail correspondence, forums, or all together through the educational platform. They bring communication closer to natural conditions, giving it a sign of authenticity and spontaneity. «Live communication» with native speakers or those who are also learning the language allows one to gain some experience, to get rid of the uncertainty, to test one's own knowledge in practice and to identify those aspects that need special attention [3, p. 217].

Among the modern means of students' foreign language training are also important:

- all kinds of platforms that are a medium for presenting videos, audio information, tutorials, images, etc. (YouTube, SlideShare and others);
- virtual learning platforms for distance learning (Moodle, SharePointLMS, ATutor and others);
- modern means of information exchange and correspondence (Wikis and others);
- cloud services for storing information (Google Drive, Dropbox and others);

- social networks (Facebook, Twitter, InstaChart and others);
- mobile applications (Viber, Messenger, Telegram and others);
- electronic dictionaries: monolingual (explanatory), bilingual and multilingual (terminological) («Free Online Longman Dictionary of Contemporary English», «Merriam-Webster Free Online Dictionary», «Collins Online Dictionary», «Macmillan Online Dictionary», «Multitran», «ABBY Lingvo», «Thesaurus Online» and others).

As an example, it is necessary to represent some exercises with using modern language training means which are used by students in the educational process of Pervomaisk Branch of Admiral Makarov National University of Shipbuilding during the practical training of full-time and part-time mode of study at the first (bachelor) level of higher education in the field of study «14 Electrical engineering», the specialty «144 Thermal Power Engineering», the educational program «Thermal Power Engineering»; in the field of study «13 Mechanical Engineering», the specialty «131 Applied mechanics», the educational program «Engineering Mechanic» and in the field of study «14 Electrical engineering», the specialty «142 Power machinery», the educational program «Internal combustion engines» during studying the subjects «Foreign Language» and «Foreign Language for Specific Purposes».

Thus, in the study of the theme «Effective leadership» by students are offered a series of exercises that are performed using the above-mentioned electronic dictionaries for the formation of foreign-language lexical competence:

Exercise 1. Read the words given below and find the synonyms for them in the proposed text «The Essential Roles of Leadership» using the electronic dictionaries, try to find as many synonyms as you can: essential (*adjective*); crucial (*adjective*); aim (*noun, countable*); to finish (*verb*); very necessary (*adjective*); figurehead, ruler (*noun, countable*); worker, staff member (*noun, countable*); to lead (*verb*); successful (*adjective*); thus, hence, consequently (*adverb*); to assist, to aid (*verb*); main, chief / principal, major (*adjective*); instinct (*noun*).

Exercise 2. Read the words given below and find out the difference in their meaning using the electronic explanatory dictionaries: to cooperate – to collaborate; a figurehead – a ruler – a leader; successful – effective.

Different types of exercises were developed to study the theme «Health and Safety» in order to systematise students' foreign language material and form their foreign language competence in listening, writing and speaking, which involve using the YouTube platform as a means to accomplish the tasks:

Exercise 1. Watch the video «What does a Health and Safety Engineer do?» <https://www.yourfreecareertest.com/health-safety-engineer/> and give written answers to the following questions:

- 1) What kind of jobs can you get with an occupational health and safety degree?
- 2) What does a health and safety engineer do?
- 3) 1) What are the duties and main tasks of health and safety engineers?

Exercise 1. Watch the videos «7 Reasons why Health and Safety Training is important» <https://www.prosafetymanagement.co.uk/news/7-reasons-why-health-and-safety-training-is-important/>, «Health and Safety Training» and «What is safety culture?» <https://www.airsweb.com/blog/why-health-and-safety-is-important>. Prepare a short report about «The importance of occupational health and safety education, training and practice» and answer the following questions in your short report:

1) What can employees of all industries in the workplace face? What kind of threats can they expect?

2) What are the main causes for education, training and practice of occupational healthcare workers?

3) What is the meaning of the concept «safety culture», what does it mean for engineers in our time?

4) Why should companies and organizations discuss different risks in the workplace?

5) What is the place of constant communication and interaction between employees and managers? What is the best way to communicate with employees? What are the ways of presenting and disseminating information about the possibility of avoiding workplace accidents? Which are the most effective?

There is no doubt that the implementation of various modern training means contributes to the informatization of higher education.

Ya. Bulakhova considers the process of informatization of higher education as a process of mass mastering of the means of information technologies by students of universities; their active implementation in traditional disciplines; changing the methodological basis of teaching, that is, replacing verbal learning with audio-visual ones. The scientist emphasizes that modern means can be an auxiliary element for the organization of training aimed at intensification of the holistic pedagogical process [2, p. 16].

The scientific novelty of the research. Thus, the study of the problem and the analysis of the advanced achievements of scientists made it possible to establish that the implementation of modern means of students' foreign language training of technical higher education institutions in Ukraine contributes to the construction of the educational process on such principles as:

– the principle of continuity of education (enables, through the use of modern means, to increase the opportunities for future engineers' foreign language training through their constant self-education, self-development, self-improvement and self-actualization);

– the principle of accessibility and individualization (makes it possible to balance the positions of a teacher and a student providing student-centered learning, thus, personally-oriented approach; helps to take into account the individual tempo of learning, for example, during independent work, etc.);

– the principle of consistency and systematicity (contributes to the creation of favourable conditions for the systematic and consistent study of a particular educational material, educational topics, etc., with the aim of future specialists' qualitative foreign

language training for the realization of their personal and professional development by involving various new means in all forms of organization of the educational process);

– the principle of virtualization (enables to activate and intensify processes of perception, comprehension, memorization of educational material by students; increases motivation and interest) and others.

The conducted analysis of modern scientific researches of domestic and foreign scientists and the advanced experience of technical higher education institutions of Ukraine allowed to highlight the following advantages of implementation of modern means of students' foreign language training:

– the presence of continuous feedback between all subjects of the educational process;

– increase of students' motivation and interest in studying, intensification of their educational, cognitive, scientific and technical activities;

– stimulating students to self-education, self-development, self-improvement and self-actualization, as well as success in educational, cognitive, scientific and technical activities;

– approximation of communication and interaction to «natural conditions» at the expense of signs of authenticity, realization of «live communication with native speakers»;

– empowerment of distance and blended learning;

– collective execution of written tasks, scientific and technical projects;

– widespread usage in the classroom and extracurricular activities such kind of work as reading, writing, listening, etc.

Conclusions, prospects for further research, suggestions. The prospects for further scientific research include the study of the possibilities of combining various modern education means with the aim of obtaining the best possible result of students' foreign language training of technical higher education institutions in Ukraine

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НОВЕЙШИЕ СРЕДСТВА ИНОЯЗЫЧНОЙ ПОДГОТОВКИ СТУДЕНТОВ ТЕХНИЧЕСКИХ УЧЕБНЫХ ЗАВЕДЕНИЙ ВЫСШЕГО ОБРАЗОВАНИЯ УКРАИНЫ

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Аннотация

В статье представлены трактовки понятия «иноязычная подготовка студентов технических заведений», которое рассматривается как сложный процесс формирования средствами иностранного языка способности будущих специалистов технических отраслей осуществлять высокоэффективное взаимопонимание и взаимодействие с иностранными собеседниками (в Украине и за рубежом), как для личных, так и профессиональных целей в устной и письменной форме, возможности анализировать и использовать различного рода научно-техническую информацию, представленную в англоязычных источниках соответствующих отраслей, для дальнейшего применения в профессиональной деятельности, способности пользоваться разного рода словарями (печатными и электронными) и др.

Акцентируется, что имплементация новейших средств иноязычной подготовки студентов технических высших учебных заведений будет способствовать построению образовательного процесса на таких принципах, как непрерывности образования; доступности и индивидуализации; систематичности и последовательности; наглядности/виртуализации и др.

Представлены и проанализированы различные новейшие средства обучения: аудиовизуальные (аудитивные (звуковые), визуальные (зрительные), аудиовизуальные (звуко-зрительные)) и технические (звуко-технические, свето-технические, звуко-свето-технические) средства.

На основе проведенного анализа современных научных исследований отечественных и зарубежных ученых и передового опыта технических высших учебных заведений Украины

охарактеризованы преимущества имплементации новейших средств иноязычной подготовки студентов этих вузов: наличие постоянной обратной связи между всеми субъектами образовательного процесса; повышение мотивации и заинтересованности студентов в обучении, активизация их учебно-познавательной и научно-технической деятельности; стимулирование студентов к самообразованию, саморазвитию, самосовершенствованию и самоактуализации, а также успеха в учебно-познавательной и научно-технической деятельности; приближение общения и взаимодействия к «естественным условиям» за счет признаков подлинности, реализация «живого общения с носителями языка»; расширение возможностей дистанционного и смешанного обучения; коллективное выполнение письменных заданий, научно-технических проектов; широкое использование в аудиторной и внеаудиторной работе таких видов деятельности, как: чтение, письмо, аудирование и др.

К перспективам дальнейшего научного поиска отнесено исследование возможностей комбинирования разного рода новейших средств обучения с целью получения как можно более качественного результата иноязычной подготовки студентов высших технических учебных заведений Украины.

***Ключевые слова:** средства обучения, технические средства обучения, иноязычная подготовка студентов, иноязычная подготовка студентов высших технических учебных заведений Украины.*

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Материал был представлен и отправлен на рецензию: 26.03.2020

Принято к публикации: 21.04.2020

Рецензент: доктор пед.наук, проф. Игорь Карапетян

The material was submitted and sent to review: 26.03.2020

Was accepted for publication: 21.04.2020

Reviewer: Doctor of Sciences, Prof. Igor Karapetyan