

DISTANCE TECHNOLOGIES IN THE PROCESS OF FORMING THE ENGLISH-LANGUAGE COMPETENCE OF FUTURE ENGINEERS

Kateryna Halatsyn

Ph.D. in Pedagogy, Associate Professor, Associate Professor at the Department of English for Engineering № 2, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Ukraine
e-mail: galatsyn.kateryna@gmail.com, orcid.org/0000-0003-3297-8284

Alla Feshchuk

Lecturer at the Department of English for Engineering № 2, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Ukraine
e-mail: fam2012@ukr.net, orcid.org/0000-0003-3683-099X

Summary

The urgency of forming English-speaking competence through distance technologies is caused by modern requirements of training specialists in the technical sphere and epidemiological situation in the world.

The article aims to define the essence of English-speaking competence formation through distance technologies. In order to realise the defined goal, it is essential to solve the following tasks: 1) to substantiate the essence of the process of formation of English-speaking competence with application of distance technologies; 2) to analyse the specificity of formation of English-speaking competence of future engineers in the course of the use of distance technologies at English lessons.

Distance technologies of developing English-speaking competence of future engineers are considered as a set of forms and methods aimed at forming and improving the competence of reading, translation, listening of authentic audio texts, video texts, scientific articles; improving the competence of English-speaking written speech; systematisation of English-speaking grammar competence through tests with the help of distance platforms and Internet-resources. It was found that English-language professional competence integrates knowledge of professional terminological vocabulary, skills of working with English-language professional texts and documents, and background knowledge of socio-cultural features of the language under study.

The author proposes goals for the use of distance learning technologies in the course “Academic English”.

Keywords: distance education; English-speaking competence; future engineers; development of English-speaking competence; distance technologies.

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1. Introduction

Today, Ukraine has accumulated considerable experience in organizing distance learning based on the models of self-study, asynchronous/synchronous online- and combined learning. In this organization of the educational process, various types of interaction with students are used: e-mail, meet, Viber, zoom, web forums, wiki, webinars, IP-telephony, streaming multimedia, file-sharing networks).

Several normative documents (Letter of Ministry of Education and Science of Ukraine No.1/9-154 “About quarantine” 11.03.2020, Order of Ministry of Education and Science of Ukraine No. 460 “About organizational measures to prevent the spread of coronavirus COVID 19” 16.03.2020) determine the requirements for the educational process in the pandemic conditions and provide a range of measures to prevent this dangerous infection, considering distance learning the most effective means of education as the most open system (*Dystantsiyna osvita...*). The Laws of Ukraine “On Education”, “On Higher Education”, “On National Programme of Informatisation”, the Concept of Distance Education in Ukraine, “Regulations on Distance Education” underline that the formation of the competence of a specialist should be carried out both in the classroom and online due to the limitations of quarantine requirements.

Special requirements of the state educational policy are imposed on the graduates of higher education institutions, the professional functions of which envisage international cooperation and the establishment of global communication between the representatives of different states in the technical field. This puts the development of English-speaking competence in the foreground, as the global labour market requires successful engineers capable of solving various professional tasks to establish effective English-speaking communication between the subjects of the technical sphere.

The issues of distance learning are the main ones in the scientific research of scholars: T. Desyatov, P. Dmytrenko, M. Zhaldak, V. Kukharenko, M. Leshchenko, V. Pasichnyk, O. Rybalko, O. Chalyi, and others. As a method of teaching English, distance education is investigated by I. Sidorenko, noting that methodological materials for distance learning should be aimed at independent development of students' foreign language communicative competence, acquisition and training of all necessary linguistic skills (*Sydorenko, 2014*). I. Postolenko defines organizational and pedagogical approaches to effective distance learning, optimal methods, forms and tools, and justifies the problems and difficulties that arise for teachers and students during English distance learning (*Postolenko, 2015: 104-108*). The author notes that distance learning courses require a learning management system or course management system. While the instructor in the classroom must provide information to all students simultaneously, online course instructors can provide instructions separately to each student and have feedback (*Postolenko, 2015: 105*). L. Khomenko and A. Balalayaeva analyze the experience of using distance learning by teachers of German and French at NAU, where e-tests to check the basic level of knowledge have been developed for distance learning; e-textbooks for non-speaking departments (*Khomenko & Balalayaeva, 2005*). Scientists have paid less attention to the characteristics of distance learning technologies in developing the English-language competence of future engineers.

The article aims to define the essence of English-language competence formation through distance learning technologies. In order to realise the defined goal, it is essential to solve the following tasks: 1) to substantiate the essence of the process of formation of English-speaking competence with the use of distance technologies; 2) to analyse the specificity of formation of English-speaking competence of future engineers in the process of using distance technologies in English language classes.

In order to implement the goal and objective of the research, methods of analysis, synthesis, generalisation, systematisation, the inference was used to clarify the essence of forming English-speaking competence of students through distance technologies and peculiarities of their use in English language classes.

2. Results

In the process of scientific research, we consider the English-speaking competence of future engineers as their ability and readiness to use professional English-speaking terminological vocabulary in various professional situations, skillfully operate with English-speaking texts and documents in future professional activity, successfully interact with other subjects of activity – native speakers of a foreign language solution of professional tasks in the technical sphere. Our experience allows us to state that English-speaking professional competence integrates knowledge of professional terminology, skills of working with English-speaking professional texts and documents, and background knowledge of socio-cultural peculiarities of the studied language. In our opinion, the effective formation of English-speaking competence is facilitated by using distance learning technologies in foreign language classes.

The terms “distance education”, “distance learning”, and “distance learning technologies” have been in scholarly circulation. O. Vanivska, O. Malinovskaya and R. Presner note that distance education is a system of modern educational Internet technologies, the didactic purpose of which depends on the leading idea of educational material content, pragmatic attitude and general concept of a single educational Internet resource (*Vanivs'ka, Malynovs'ka & Presner 2018: 26*). Already, distance learning involves working in a virtual learning environment, a modular object-oriented dynamic environment (a specific software platform) and an electronic course on an educational discipline. Scholars note that distance learning is “always a process, a specific activity in a virtual learning environment, in which skills in the use of information and communication technologies are developed, activated and improved” (*Vanivs'ka, Malynovs'ka & Presner, 2018: 26*).

In the context of the study, we are impressed by the opinion of O. Bartkiv and E. Durmanenko, who define distance learning as a form of educational process organization through the Internet, which is implemented extraterritorially, synchronously or asynchronously, in a well-defined time period or at the educational needs and desires of students, and is aimed at forming general and professional competencies of future specialists (*Bartkiv & Durmanenko, 2020: 57*).

To summarise, like distance education (a broader concept than distance learning), distance learning involves the use of Internet technologies; their main features are synchronous/asynchronous learning activities, autonomy, interactivity, extraterritoriality, availability of multimedia content, etc.

H. Dumansky, who researches e-learning technologies, defines them as a set of methods, forms and tools of interaction with a person in the process of independent but controlled learning of a specific body of knowledge (*Dumans'ky, 2008: 119*). We agree with the scientist's opinion, supplementing it with the fact that since the notion of “learning technology” is the way of implementing the content of learning provided by the curriculum, representing a system of forms, methods and means of learning, providing the most effective achievement of the goals (*Honcharenko, 1997: 331*); a systematic method of creating, applying and defining the entire process of learning and assimilation of knowledge concerning technical and human resources and their interaction, which aims at optimizing the educational process (*Dumans'ky, 2008: 121*). We note that, like any other learning technology, distance learning technology is very much focused on the student's personality, on testing developed practices (teaching methods and techniques) through empirical analysis and extensive use of audiovisual media in learning, defines practice in close connection with learning theory.

Types (*Kudryavtseva, 2005*) and technologies (*Dumans'ky, 2008*) of distance learning are presented in pedagogical literature. Taking into account the specifics of our study and the

experience of working with technical students, the same types and technologies of distance learning in English classes are used in the process of English competence formation (Fig. 1):

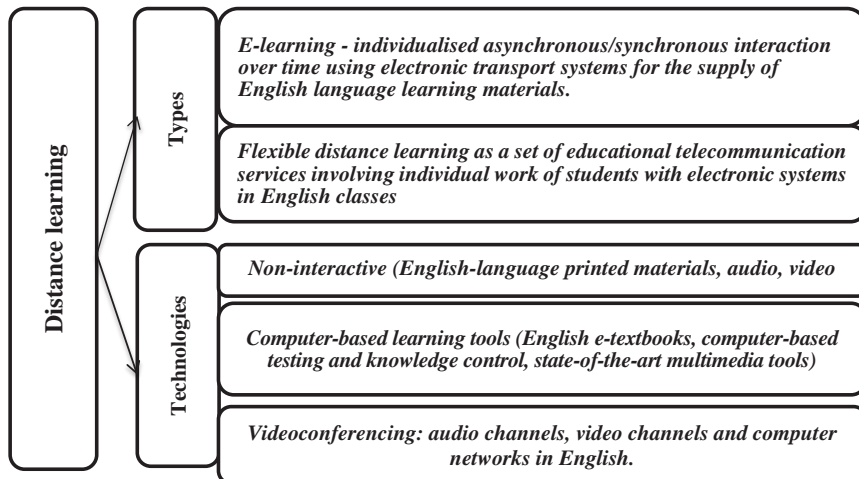


Fig. 1. Types and technologies of distance learning

As the analysis of Fig.1 shows, both types and technologies of distance learning in English language classes involve the use of a set of information learning technologies; individual work of students; allow constant and dynamic online telecommunication interaction between the student and the teacher and students among themselves, and the initiative of such communication can come from any of the mentioned objects of the educational process.

The structure of learning technology, including distance learning, in foreign language classes, integrates learning objectives; learning content; means of interaction (means of teaching, motivation), organization of learning process and its subjects (student, teacher); activity result, including the level of professional training.

We support the opinions of scientists (O. Balalaeva, L. Khomenko, S. Kudryavtseva, etc.) that a multimedia approach based on the use of several complementary information technologies is more effective than the above-mentioned distance learning technologies. Therefore, we have developed multimedia programmes for each topic of the course “Academic English”, which have shown their effectiveness in learning and consolidating lexical, grammatical, country-specific material, as a support in developing monological and dialogic speech and forming competencies in listening, speaking, reading, writing and translation/interpretation at B2 level (*Halatsyn & Khom'yak: 2019*). Alongside this, students use multimedia programmes remotely to visualise the content of learning material, in their mode and according to their needs. It is also effective to use multimedia applications based on modern intensive language learning methodology, which performs informative-cognitive and controlling functions.

The specifics of learning English and, accordingly, the formation of English language competence lie in improving the ways of activity – learning different types of speech and speech activities: speech, listening, reading, writing. Therefore, the implementation of distance learning technologies (DL) is carried out with the help of the scheme of technological construction of the process of learning English developed by us (*Halatsyn & Khom'yak: 2019*) (Fig. 2).

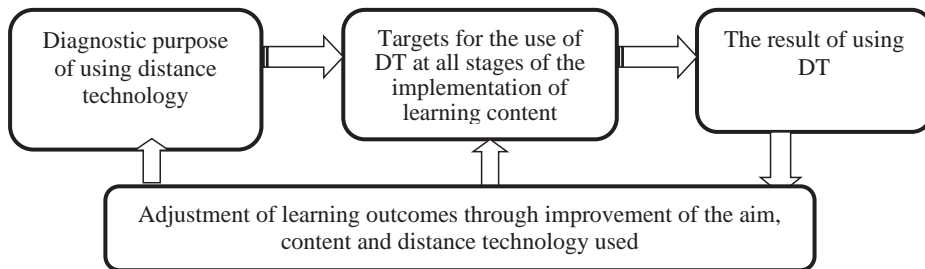


Fig. 2 .Technological design of the English language learning process using distance learning technologies

Distance learning uses technology that focuses on individual or group work; it involves close collaboration, active learning and the exploration of different sources of information.

T. Turkot states that it is distant technologies that imply wide use of research, problem-based methods, application of acquired knowledge in joint or individual activities, development of not only independent critical thinking, but also the culture of communication, ability to perform different social roles in joint activities (Turkot, 2015: 220).

Therefore, we widely use the case-method (case-study method, the method of active problem-situation analysis through solving specific tasks-situations (case-solving) – a method of distance learning, which has the aim of compiling an individual case for students as an integral package containing tasks-situations for each topic of the course “Academic English” (Halatsyn & Khom’yak: 2019), which can be solved on condition of developing authentic texts from online sources, consideration and analysis of multimedia presentations, videos; found on the electronic The technologies of processing discussion questions (“Press Method”, “Take a position”, “Change a position”, talk-show-style discussion) are effective in forming English-speaking competence. These methods of structured discussion in which all students of the group participate in online mode allow controlling the course of the discussion, assessing each student’s participation.

Distance learning technologies are also used to organise students’ independent work. In the process of studying the course “Academic English” (Halatsyn & Khom’yak: 2019), for independent work, the packages of exercises and tasks, sets of individual semester tasks requiring active use of online encyclopaedias, dictionaries, periodicals on speciality were developed.

In forming English-language competence, we use remote TV technologies to implement multilateral video-teleconferences, one-way video broadcasting, Internet technologies through video-conferencing, Internet-radio, Internet-TV, voice mail, E-mail, chat rooms, forums. We also actively involve students in work with professionally-oriented search engines Metasearch Search Engine, Yahoo and RefSeek; online encyclopedias (Large aviation encyclopedia, Half-Life encyclopedia, etc.), online periodicals depending on the speciality profile.

3. Conclusions

The application of distance technologies in the process of English-language competence formation requires compliance with the topic, purpose and content of the educational material, precise formulation of tasks, specific instructions for its implementation, skillful use of online platforms and the ability to find the necessary information on the subject, the purpose and content of the educational material, as well as the ability to use online platforms for the

development of English-language competencies, as well as the ability to use online platforms for the development of English-language competencies.

The conducted research does not claim to be an exhaustive study of the problem; further research is needed to analyse the issues of distance learning technologies for developing English-language competence in the independent work of future engineers.

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