THE USE OF EDUCATIONAL COMPUTER PROGRAMS IN THE TRAINING OF FOREIGN LANGUAGE TEACHERS FOR SPEECH ACTIVITY

O USO DE PROGRAMAS EDUCACIONAIS DE COMPUTADOR NA FORMAÇÃO DE PROFESSORES DE LÍNGUA ESTRANGEIRA PARA ATIVIDADE DE DISCURSO

EL USO DE PROGRAMAS EDUCATIVOS DE COMPUTADORA EN LA FORMACIÓN DE PROFESORES DE IDIOMAS EXTRANJEROS PARA LA ACTIVIDAD DEL HABLA

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ABSTRACT: The present study glances at the use of educational computer programs in professional training of students majoring in Philology. It highlights the urgency for new approaches to improve the educational process in response to the requirements of present realities. This study draws upon extensive corpus research on the use of innovative technologies in education. The findings reveal that there are certain differences in the application of this technology in teaching abroad and in the Ukrainian pedagogical practices. It was established that implementation of educational computer programs, in contrast with traditional teaching methods, has potential benefits as well as certain limitations. This research substantiates the importance of considering these factors when aiming to improve professional skills of future teachers and their linguistic competences. The conclusions drawn from the research findings allow providing recommendations concerning the improvement of professional training of foreign language teachers by means of educational computer programs.


RESUMO: O presente estudo analisa a utilização de programas educacionais de informática na formação profissional de alunos do curso de Filologia. Ele destaca a urgência de novas abordagens para melhorar o processo educacional em resposta às exigências das realidades atuais. Este estudo baseia-se em um extenso corpus de pesquisa sobre o uso de tecnologias

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inovadoras na educação. Os resultados revelam que existem algumas diferenças na aplicação desta tecnologia no ensino no estrangeiro e nas práticas pedagógicas ucranianas. Foi estabelecido que a implementação de programas educacionais de computador, ao contrário dos métodos tradicionais de ensino, apresenta benefícios potenciais, bem como certas limitações. Esta pesquisa corrobora a importância de se considerar esses fatores quando se busca o aprimoramento das habilidades profissionais dos futuros professores e suas competências lingüísticas. As conclusões extraídas dos resultados da pesquisa permitem formular recomendações sobre a melhoria da formação profissional dos professores de línguas estrangeiras por meio de programas educacionais de informática.

**PALAVRAS-CHAVE:** Tecnologias modernas. Espaço virtual. Pedagogia. Competência comunicativa em língua estrangeira.

**RESUMEN:** El presente estudio analiza el uso de programas informáticos educativos en la formación profesional de estudiantes de la carrera de Filología. Destaca la urgencia de nuevos enfoques para mejorar el proceso educativo en respuesta a las exigencias de la realidad actual. Este estudio se basa en una extensa investigación de corpus sobre el uso de tecnologías innovadoras en la educación. Los resultados revelan que existen ciertas diferencias en la aplicación de esta tecnología en la enseñanza en el extranjero y en las prácticas pedagógicas ucranianas. Se estableció que la implementación de programas informáticos educativos, en contraste con los métodos tradicionales de enseñanza, tiene beneficios potenciales y ciertas limitaciones. Esta investigación corrobora la importancia de considerar estos factores a la hora de intentar mejorar las habilidades profesionales de los futuros profesores y sus competencias lingüísticas. Las conclusiones extraídas de los resultados de la investigación permiten formular recomendaciones sobre la mejora de la formación profesional de los profesores de lenguas extranjeras mediante programas informáticos educativos.

**PALABRAS CLAVE:** Tecnologías modernas. espacio virtual. Pedagogía. competencia comunicativa en lengua extranjera.

**Introduction**

The process of integration of the European educational space stimulates a person's professional interest in learning foreign languages as a means of communication, expanding international relations, and trying to establish new standards of relations between countries. Accordingly, the special training of future foreign language teachers in both traditional and alternative forms of education, such as computer programs, is being reformed.

Today in the world vocational education, there are processes of improving its quality through the introduction of information and communication technologies in educational activities. This leads to an increase in public demand for highly qualified specialists in the field of foreign language teaching, able to effectively conduct professional and educational activities in a rich information space. In the modern educational sphere, in the appropriate pedagogical
support of professional training of future foreign language teachers by means of information and communication technologies, there are strong historical traditions of language teaching with the use of educational computer programs, starting with the creation of correspondent schools.

The popularity of the use of computer training programs in the education of foreign language teachers has its own explanation. Computer training programs allows presenting on the display elements of different nature, to demonstrate the features of the surroundings and the environment, which can be used as a background for the formation of speech activity in foreign language classes. Computer training programs are used at all stages of the learning process: when explaining new material, consolidation, repetition, control. This provides several advantages: ensuring the individualization of learning; high motivation of the learning process; improving general, computer and linguistic culture; availability of feedback; lack of negative emotions from computer training programs when repeating mistakes; more effective evaluation.

Working with a computer, a teacher changes the whole structure of a lesson and its purpose. Working with such programs not only helps to increase interest in learning but also makes it possible to regulate the provision of educational tasks according to the degree of complexity, as well as motivates speech activity.

Solving the problem of training future foreign language teachers by means of computer training programs is an urgent need of the time, which is determined by the requirements for the quality of professional development, approval of a new paradigm of higher pedagogical education, informatization of modern society and educational environment.

In recent decades, a large amount of research has been conducted in the context of the problem under consideration. The use of educational computer programs in foreign language education is increasingly attracting more attention. Theoretical and methodological aspects of practical mastering of a foreign language with the use of information and communication technologies are being developed (TITOVA, 2003; BELKINA, 2004; GOLUBEVA; REPIN, 2004; BOVTENKO, 2005). The criteria of quality of formation of communicative culture with the use of modern software products have been characterized (GLAZUNOV, 2016). Typologies of computer exercises for foreign language learning have been created (ASOYANTS et al., 1993; CHEKAL et al., 2003). The possibility of using existing computer programs for different types of speech and speech activities also did not go unnoticed by researchers (SARANA, 2003; MOSKALETS, 2009). The efficiency of realization of modern methodical approaches in the conditions of computer application was proved (TITOVA, 2003). In domestic linguodidactics, the use of computer programs for the formation of competence was characterized in writing of
Rusnak (2009); Kamensky (2009); Synekop (2011); speakings of Chirva (2008); Korobeynikova (2013); Drach (2015); readings and listenings of Radetska (2004); Cornwell, & Cornwell (2006); Solomko (2014). These studies show a tendency to increase the role of computer tools in foreign language education. However, the peculiarities of the use of educational computer programs depending on the specifics of different types of speech activities of future foreign language teachers have not yet been sufficiently reflected in the pedagogical literature.

The purpose of the article is to find out the peculiarities of the use of domestic and foreign educational computer programs for the formation of different types of speech activities in the training of future foreign language teachers.

The concept of computer training programs and requirements for them

The European experience of using computer training programs to teach future foreign language teachers is quite significant. These are programs for learning foreign languages: “Rosetta Stone”, “Deutsch Gold 2000”, “Der Die Das”, “Wlingua”, “Duolingo”, “Babbel”, “FluentU”, “El Mundo”, “Memrise”, “Busuu”, “MosaLingua”, “Learn French with Babbel”; “Italki”, “HiNative”, “Nemo”, “Anki” (Finland); “HelloTalk”, “iTalk”, “Hello Pal”, “Busuu”, “Learn Italian Phrasebook”, “Memrise” (Italy), etc. Today, various specialists are involved in the development of computer training programs. They try to systematize the software product in accordance with the objectives of their industry. Most of these programs are well-known and widely used. Their effectiveness in teaching foreign languages has been proven. They are successfully used in the domestic system of language education. But it is noteworthy that these software products have not yet formed a tradition of developing educational computer programs in accordance with the specifics of different types of speech activities. Their developers focused not so much on the linguistic aspect, but on the generally accepted requirements, aligned with which different types of programs are used: educational, developmental, modelling. Among the educational there are such types as:

1) Educational computer programs aimed at solving certain educational tasks (simulators; computer games; control programs);

2) Educational computer programs that provide the educational process (reference systems);

3) Computer educational programs (automated learning systems; subject-oriented environments) (SCHLICHTING, 1997).
These types of programs are used in teaching various disciplines and are not directly related to the specifics of speech. But they are important because they solve common problems. There is the greatest variety of programs that belong to the first group. Among the popular educational computer programs aimed at solving certain educational tasks are the following: tutoring; simulation modelling; control. The main condition for their use in language classes is compliance with the didactic purpose of learning.

The preparatory stage in the organization of speech activity is very well developed in tutoring programs. They are most often used at the stage of submission and control over the assimilation of educational material, in particular for the presentation of educational material, the study of rules and regulations, ways to solve the problem. They begin with the introductory part, acquaint students with the tasks and the nature of the lesson. These are foreign language software tools such as: “Professor Higgins”, “Learn Speak English”, “Reward Intern@tive Full Pack”, “English Reading Club”, “Using English”, “English Page”, “Easy Reading”. The main stage of the lesson on learning speech activity is considered in detail in simulation programs.

The most diverse type of programs is control programs, the very name of which indicates the stage of their use. Their pedagogical value lies in the formation of certain communication skills. Their solution requires the generalization of existing knowledge, skills, and abilities, their transfer to the solution of a specific situation. Test programs for foreign language teaching include both standard and non-standard tasks. Such programs are used in the classroom to consolidate the material studied, as well as in extracurricular work on the subject. Examples of such programs are: “Certificate in Advanced English”, “Step UP”, “Lim English”.

Among the disadvantages of these educational computer programs are the following purely technical aspects. This is, for example, the abuse of computer effects, the brightness of colors. A more serious problem is the difficulty of adapting ready-made computer programs to the traditional lesson, as they do not always correspond to the work program, methodological goals and didactic principles of teaching. Nevertheless, it is generally accepted that computer-based learning programs should be used in conjunction with traditional means and methods.

Today it is possible to talk about the existence of such areas of application of educational computer programs in language classes as: the use of ready-made multimedia products and...
computer educational systems; development of own multimedia and educational programs; creating your own multimedia presentations; use of educational computer programs in extracurricular activities; use of Internet resources. It should be noted that despite all the achievements, it has not yet been possible to sufficiently formalize all the criteria for the quality of programs.

The use of ready-made multimedia products and educational computer programs is the most common area in the field of foreign language teaching with the help of modern technologies. There are a huge number of such programs. Each of them is based on the use of ready-made computer training courses, represented by exercises to consolidate the studied phonetic, grammatical and lexical material. Such educational computer programs include: “English Grammar in Use Activities”, “Instant Immersion”, “Learn It Now English”. The teaching material in these programs often contains two parts: theoretical and practical, namely the training is based on interactive lessons on various aspects of foreign languages. They are recommended for use at all stages. However, the main types of exercises involve only choosing the right answer and filling in the blanks.

Developing one’s own multimedia products and computer training programs is also popular with foreign language teachers. To do this, there are many computer programs for training (“Teacher certification degrees”, “Whetstone education”, “Scholastic”, “Become a Teacher in Virginia”, “Learn how to become a teacher”, etc.), which contain examples, instructions. If to consistently follow these recommendations, it is possible to create a product of the appropriate level of quality. The participation of foreign language teachers in this process is necessary. It is determined by the specifics of the discipline.

The scientific and pedagogical literature offers many models and tools for assessing the level of educational computer programs. From the existing criteria of quality of educational computer programs for formation of foreign language competence the following are most often applied: efficiency of feedback; the ability to quickly enter answers; availability of training and control tasks; implementation of the educational function of the interface; complexity of didactic materials; accompanying documentation; possibility of repeated exercises; clearness. These criteria are relevant to assessing the quality of all types of curricula, regardless of the type of speech activity. It should be emphasized that the specifics of foreign language teaching leave its mark on the system of performance indicators of educational programs, namely: each of the types of speech activity requires its own special quality criteria, the systematic development of which is still a matter of the future.
According to the different types of speech activity operating in foreign language education today, computer training programs can be divided into two groups: programs for the formation of skills in oral speech (speaking and listening) and programs for the formation of appropriate competence in written speech. Other options are possible. The most appropriate from the point of view of systematization is the division into such groups as: programs that focus on productive types of communication, and receptive.

Analysis of existing educational computer programs to prepare future foreign language teachers for activities


It should be noted that the predominant programs are designed to develop competence in productive speech activities (speaking, writing). Regarding receptive types, it should be noted that the level of development of educational computer programs has not yet been reached, at which there is a need to separate the formation of competence in listening from the formation of reading competence. Today in domestic and foreign didactics it is accepted to use educational computer programs in complex training of receptive types of speech activity. There are some exceptions to this rule, but they do not define the general trend.

Computer training programs used in the formation of speech competence are based on such a means of organizing the material and the sequence of its presentation, which is determined by the characteristics of speech activity (monologue or dialogue). All these computer training programs are organically connected with the structure and content of work programs and curricula in English, create favorable conditions for mastering the material using the differentiation of skills and abilities. The material is authentic. The exercises included in
these computer programs are systematized, the training is carried out in stages. Programs are so structured that they have a wide range of alternatives in action, conciseness in the presentation of educational material. In addition, the computer training program “Speak up English” (MURPHY, 2007) provides for the prevention of typical errors or their elimination. These programs are quite effective because the formation of foreign language competence goes through all stages of the didactic cycle: from setting tasks and presenting material to training with feedback and preparation for independent speech activity.

Computer literacy training programs are also characterized by the presence of feedback. Training and control tasks are formulated in such a way that they can be performed without long coding and encryption. Some programs can perform multiple exercises. In addition, these programs give students the opportunity to operate with a large amount of information, there are alternatives in the choice of material and, most importantly, various means of multisensory influence are used. Their structure is based on a cyclic-modular construction algorithm, which allows for simultaneous training, diagnosis and control in the formation of communicative skills and abilities of students.

The “English Business Contracts” computer program meets all these requirements (GLAZUNOV, 2016). It offers specialized texts for drawing up business contracts in English as educational material. The training consists of a set of classes, provides the ability to quickly enter answers without long coding and encryption, the learning function of the interface is fully implemented, didactic materials are comprehensive, there is accompanying documentation that explains all the tasks. Regarding the adaptability of educational materials, there is no possibility to choose the level of complexity, volume, format of information. Video and audio presentation are also not used, which significantly reduces the didactic capabilities of the program.

The most interesting from the point of view of the action of specific quality indicators is the second group of programs – designed to develop competence in listening and reading competence. The authors have included to it both domestic and foreign programs on the principle of similarity of their methodological organization. All of them have such a characteristic feature as phasing. The process of formation of speech competence is correlated with three stages of learning: presentation and initial consolidation of new lexical units; automation of speech actions of students with new lexical units in reading and listening; improving receptive lexical competence at the text level. Comprehensive didactic materials help to increase productivity and efficiency of the process of formation of competence in listening and reading competence, consciousness and interest in learning a foreign language. The accompanying documentation provides clear instructions for performing the exercises.
The most typical of the receptive programs is the program “English for Economists (reading aspect)” (KOROBEYNIKOVA, 2013). It meets the requirements for electronic texts, aimed at developing students' skills and abilities of introductory and learning reading. It is also very important that the program corresponds to the work program and is related to the English language course. Using this training computer program is as simple as possible thanks to the navigation capabilities of the system, which provide free movement through the training computer program. The peculiarity of this course is the availability and possibility of using the student assistance system, the implementation of feedback. The model of reading instruction includes acquaintance, training, reading and control over comprehension. However, this program does not allow students to perform multiple exercises, there are types of tasks that are difficult to perform without the use of a computer, there is no dynamic and static clarity. There are also no opportunities to review, analyze and correct mistakes, as well as to objectively assess the initial and final levels of reading skills.

The requirements for electronic text are met by almost all foreign educational computer programs for reading: “Living books” (SCHLICHTING, 1997), “PolarFLE” (PERROT; PERROT, 2003), “English Business Contracts” (GLAZUNOV, 2016), “LANG Master Interactive English Course” (MURPHY, 2007), “Language Learning & Technology” (PAKHOMOVA; DRACH, 2015) and others. The authors of “Living books” (SCHLICHTING, 1997) use both tools to perform tasks traditional for printed sources, and such presentation tools as video, audio, graphics. Audio-video materials are fully used. At the same time, the program includes computer exercises. These tasks are focused on the formation of learning motivation, but the relevant reading skills and abilities are not included in their purpose. The possibility of repeated exercises and the division of tasks into training and control exercises in this program is not traced. Dialogue mode is not provided. The level of complexity of the tasks is not developed.

A characteristic feature of the “PolarFLE” computer training program (PERROT; PERROT, 2003) is that it is available online. It has an interesting form of a detective novel. The material is presented based on the text, after which various speech exercises are offered. As for the grammatical aspect, it is presented with the help of rules, exercises have a training character, automation of actions with structures takes place at the sentence level. Feedback is provided by posting correct/incorrect answers. In this program, task tools traditional for printed paper materials are combined with specific computer types of tasks. Working with a computer training program requires performing tasks in a dialogue mode. But, in this program, there are no means of material presentation (sound, graphics, animation, video); there is no re-examination,
analysis, correction of errors, choice of level of complexity, sequence of tasks; it is impossible
to objectively assess the initial and final levels of reading skills and abilities.

Online accessibility, compliance with the requirements for electronic texts characterize
the educational computer program “Language Learning & Technology” (PAKHOMOVA; DRACH, 2015). It has specific tasks that cannot be accomplished without the use of a computer. The submitted didactic materials are complex: they contain dictionaries and text editors. The program provides an opportunity to choose the level of complexity, volume, format of information and options for combining it. However, the sequence of tasks is unchanged, there is no clear distinction between control and training tasks, no repeated exercises are used, i.e., algorithmic procedures are virtually absent.

The program “LANG Master Interactive English Course” (MURPHY, 2007) is characterized by a variety of exercises. When working with the text, students can choose different modes: reading, reading and listening, listening and viewing illustrations, practicing the pronunciation of individual words and phrases. The program is based on the printed edition. The disadvantage of this computer program is the indistinct separation of training tasks from control, the inability to work in dialogue mode. It is established that all the analyzed educational computer programs of the receptive direction promote the growth of labor productivity and efficiency of the educational process, have training exercises/tasks. The didactic materials of the analyzed computer training programs are authentic. Training within these programs is phased.

In addition, these programs have effective means of performing tasks, traditional for print, audio and video materials, offer specific types of tasks. The texts included in the analyzed programs for the formation of reading competence meet the requirements for electronic texts, as well as for their technical support. Almost all computer training programs have the optimal number and variety of exercises, the submitted materials are complex, the content of tasks is variable. Yet, these programs also have disadvantages: lack of sufficient volume, format for presenting information; clear demarcation of training and control exercises. Foreign programs, unlike domestic ones, are not related in content to the foreign language curricula. In addition to the lack of a proper sequence of exercises that shape the relevant skills and abilities, this creates some difficulties in adapting to the norms of domestic education.

Comparison of domestic and foreign educational computer programs designed for the formation of different types of speech activities, allows deciding on the need to borrow or develop an author's product. Unlike the domestic one, the world experience of using educational computer programs for the formation of reading competence is richer and, without a doubt, it
should be used. Domestic computer training programs have such a feature as focusing on the specifics of learning foreign languages. And for the foreign experience it is characteristic to take into account (primarily) the peculiarities of reading electronic texts. This is the nonlinear structure of the text; and “cohesion” (linear structure of a text as a sequential combination of sentences); and integrity; and “coherence” (a meaning of expressions used in a text determined by a context). As well as intentionality (focus on a reader) and intertextuality (presence of other texts in a text).

It is generally accepted that educational computer programs for the formation of reading competence must meet the requirements for electronic text (POGORELOVA, 1993; TITOVA, 2003; BOVTENKO, 2005). Among these requirements, modern computer didactics distinguishes such as: the use of sound, graphics, animation, video; consideration of objects of phenomena in change and development; clear demarcation of training and control exercises; ability to view, analyze, correct errors; involvement of such didactic materials, dictionaries, text editors; adaptability of educational materials; the ability to work in dialogue mode. All these requirements apply to both already developed and new curricula.

As it has already been determined, the specifics of electronic text are considered in almost all foreign programs, and in recent years the authors of domestic programs for the formation of reading competence are beginning to pay attention to it. It should be noted that domestic authors pay a lot of attention to the dialogue structure and specifics of communication in the “student-computer” system. They very carefully develop the problem of a modality of communication, based on the basic principles of painting: proportion, order, accent, balance. Equally interesting are the techniques of computer text design, which are based on personification, specification, abstractness, informativeness, etc.

For example, a relatively new software product that has been developed considering the advantages/disadvantages and features of electronic texts is a training computer program “English for Philologists: aspect of reading” (PAKHOMOVA; DRACH, 2015). Experimental verification of this program confirmed its effectiveness, as evidenced by a comparison of average integrated assessments of foreign language competence at the stages of the experiment: in the EG1’ (the first experimental group) the average integrated assessment increased from 46.9 to 69.3; in the EG2’ (the second experimental group) – from 44.7 to 50.2; in the CG (control group) – from 44.9 to 45.7. A statistically significant difference between the results of groups at the control stage and the results of diagnosis in experimental groups at the stages of the experiment proves the feasibility of introducing computer programs into the educational process of training future teachers of foreign languages.
Conclusions

Computer training programs are a universal means of mastering foreign languages. The specificity of a foreign language as a discipline is related to the process of formation of communicative foreign language competence, which requires a special approach to the development of educational computer programs. The choice of a software product depends on the level of language training and individual characteristics of students. With its help, it is possible to significantly increase the effectiveness of the formation of all types of foreign language competence of future teachers of philology. The most successful educational computer programs should be an integrative part of the linguistic discipline and create favorable conditions for mastering the educational material in accordance with the level of educational achievements and abilities of students. The general trend of introduction of educational computer programs in the training of future foreign language teachers involves, on the one hand, the use of existing programs, and on the other hand, the development of a new product. This approach in foreign pedagogical practice is traditional, which provides an opportunity for a quality organization of training. In the domestic education system, this experience can also be considered quite significant.

Different types of programs are dominated by computer training programs for the formation of competence in productive types of speech activity (speaking and writing). Until recently, the practice of using educational computer programs to form receptive speech activities (reading and listening) is less common. The specifics of speech activity (speaking, writing, reading, listening) has an impact on the advantages and disadvantages of the respective programs. Therefore, taking them into account opens up additional prospects for the formation of various types of speech competence and improving the quality of professional training of foreign language teachers.

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