Features of the Use of Computer Telecommunications In Education: Development Prospects

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Summary
In the article, in connection with the goal and the hypothesis put forward, the following tasks were formulated:
Based on the analysis of literature and existing pedagogical experience, the possibilities, features and pedagogical conditions for the use of educational telecommunication projects were specified.
The selection of topics and content of educational telecommunication projects for use has been carried out.
Research methods: theoretical analysis of psychological, pedagogical and methodological literature, projects of educational standards in computer science and information technology, study of the state of the problem in teaching practice, questioning.

Key words:
Education; Qualities; computer; Professional Education; Technologization, telecommunications.

1. Introduction

The modern educational policy of Ukraine defines the goals and main tasks of the modernization of education, among which the main one is to ensure the modern quality of education based on the preservation of its fundamental nature and compliance with the current and future needs of the individual, society and the state. In this case, the main role is assigned to the general education school, the modernization of which presupposes the orientation of education not only to the assimilation of a certain amount of knowledge by the student, but also to the development of his personality, his cognitive and creative abilities [3].
The renewal of educational activities, the achievement of a new quality of education is associated with the informatization of education, the optimization of teaching methods, the active use of open education technologies.
However, solving problems in this direction is faced with certain difficulties associated with many reasons. Modern information technologies do not always fit organically into the traditional educational process.
At the same time, many authors use various methodologies for constructing a basic computer science course. Analysis of the situation in education shows that the educational process is a set of certain areas of knowledge, which, as a rule, are not related to each other and do not take into account the specifics of adolescence and modern society. The educational process is built through a rigidly set classroom-lesson system in isolation from many types of future professional activities of the student[1-6].
Based on this, new principles and methodologies for organizing the educational process are formulated, taking into account individualized forms of educational activity and aimed at developing design and research skills, creating conditions for the formation of a set of competencies, which are considered as a person's ability to realize their ideas in the information and communication space.
When designing curricula, it is necessary to take into account:
• variability and personal orientation of the educational process;
• the possibility of students' choice of content elements and the corresponding forms of educational activity
• practical orientation of the educational process, strengthening the activity component (mastering design, research and communication skills).
The implementation of these goals can be ensured:
• unloading of educational material, i.e. refusal to focus on the assimilation of knowledge that is not assimilated by the majority of students;
• changing the structure of the existing curriculum, built on the allocation of key, meaning-making concepts and schemes;
• systematization of numerous forms of additional education;
• the definition of an external space aimed at enhancing the role of design and research activities by social practice of students.
It seems that the personality-oriented paradigm of education and the concept of the need-information approach are adequate to modern requirements for updating the methodological systems of teaching subject disciplines. The

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main technologies of student-centered education are: learning in collaboration, project activities (project method), multilevel and differentiated learning. These technologies can acquire a higher quality level when using information technologies, networked computer systems, and the global Internet. These approaches form the basis of a new draft educational standard for general education in computer science and information technology. The task of achieving initial competence in the use of information and communication technologies is put forward as a priority. The basis for its formation is the basic course of informatics, in which it is necessary to provide:

• reduction in the volume of routine technological knowledge and skills acquired by schoolchildren related to the specifics of the informatization tools used;

• unloading the study of computer science and information technology in a separate subject due to the practical development of skills and abilities in the course of studying all general education disciplines, in extracurricular activities.

To stimulate the student's interest in the development of information technologies, methods of creating a situation of novelty, the relevance of the problems under study are needed. It is necessary to link the content of project activities with life, awareness of the social and personal significance of the development of computer communications by students in project activities, which is an important factor in motivating learning.

In this direction, the following contradictions were revealed:

• between the growing role of information and communication technologies in society in general and in education in particular, their influence on the content, means and technologies of teaching the school computer science course and the lack of adequate reflection of this role in the educational process;

• between the objective need for widespread use of open education technologies and the traditional, "closed" system of teaching computer science;

• between the potential educational opportunities of information and communication technologies, educational telecommunication projects and existing methods of classroom teaching in informatics.

Ensuring the quality of teaching computer science and information technology and the formation of information competence of the student (possession of computer literacy, ideas about the informational picture of the world, skills and abilities to navigate in the world of information) will be possible if:

• to include specially designed educational telecommunication projects developed on the basis of the principles of the need-information approach and student-centered learning in the methodological system of teaching informatics;

• to create the necessary conditions for the formation of an open course in informatics, the integration of educational and extracurricular activities in informatics and information technology.

The purpose of the article is to improve the methodological training system based on the use of educational telecommunication projects.

2. Theoretical Consideration

Living in an information society is changing people's perceptions of information. The more complete the information that a person can master, the more advantageous he will be in comparison with his colleagues at work or study.

An educated member of society should be aware of the existence of publicly available sources of information and be able to use them, evaluate and process the data available to him from various points of view. It should be recognized that the level of human development, his learning ability significantly depend on the forms and quality of communication, on the availability of access to information resources.

Remote technologies allow to expand different ways of communication between people.

The educational system faces a global problem - to prepare people in a timely manner for new living conditions and professional activities in a highly automated information environment. It should ensure the formation of new knowledge and skills in people that they will need in a new information environment, as well as a new, holistic world outlook and information worldview.

At present, as in many other countries, the process of modernization of education is under way, the emphasis is shifting for the purposes of education, a practical transition has begun from education in conditions of limited access to information to education in conditions of unrestricted access to information. Education becomes "open" or acquires an "open learning architecture"

Many works are devoted to the problems of formation and development of the open education system. The main strategic direction of the development of the school education system in different countries lies on the path of student-centered education - an education in which the student's personality would be in the center of attention of a teacher, psychologist, and cognitive activity would be leading in the teacher-student system, so that the traditional teacher paradigm - textbook - student was replaced with a new one: student - textbook - teacher. Such a system reflects the humanistic direction in philosophy, psychology and pedagogy. The main distinguishing feature of this direction is special attention to the individuality of a person, his personality, a clear orientation towards the conscious development of independent critical thinking.

At present, almost all developed countries of the world have realized the need to reform national education systems so that the student and student really become the central figures of the educational process, so that the student's cognitive activity is in the center of attention of educational researchers,

developers of educational programs and teaching aids, and administrative workers.

Telecommunication technologies have opened up completely new opportunities for students and teachers. The observations of specialists have shown that work in computer networks actualizes the need of students to be members of a social community.

Improvement of literacy and development of speech of children through telecommunication communication, an increase in interest in learning and, as a result, an overall increase in academic performance are noted. International telecommunication projects are becoming more widespread.

A theoretical analysis of the pedagogical and scientific-methodical literature shows that the scientific-pedagogical and methodological potential of educational telecommunication projects is far from being fully involved. Currently, they are usually applied to the study of humanitarian disciplines, implying a fairly high level of knowledge, skills and abilities in the field of computer communications.

The emergence of computer networks, the Internet and the growing attention of the school itself to the use of new information technologies (including computer communications) in the educational process has become the reason for the great popularity of educational telecommunication projects[3].

Educational telecommunication projects

Educational telecommunication projects are a direction that is the development of the project method in the context of global informatization and telecommunications, and the project method itself is not fundamentally new in world pedagogy.

The project method, meaningful in retrospect of its use in pedagogical practice, with its modern rethinking and acceptance as a component of the education system, has rich didactic opportunities that are far from fully explored and used, both for intra-subject and inter-subject teaching. The search for means of enhancing the cognitive activity of students, the development of independence, teaching the methods of thinking and activity leads to a revision of the didactic capabilities of the project method, the forms of its implementation, the search for a method of using educational projects in teaching various school subjects and, first of all, the subject of computer science.

The project method is a learning system, a flexible model for organizing the educational process, focused on the self-realization of the student's personality through the development of his intellectual and physical capabilities, volitional qualities and creative abilities, which means the possibility of re-invention, is used as a method of technological training.

The project method is created within the framework of pedagogical theory, which is focused on the connection between school and life, with the aim of teaching - on the one hand, and on the other - with the aim of changing the latter.

In recent years, in domestic education there has been a renewed interest in the project method, focused on independent (individual and group) work, involving the use of research and search methods, creative work of students, work with various sources of information bearing variable points of view.

The reasons for this interest include the following:

• the need not so much to transfer to students the amount of certain knowledge, but to teach them to acquire this knowledge on their own, to be able to use the acquired knowledge to solve new cognitive and practical problems;

• the relevance of the acquisition of communication skills and abilities, i.e. skills to work in various groups, performing different social roles (leader, executor, mediator, etc.);

• the relevance of broad human contacts, acquaintance with different cultures, different points of view on one problem;

• the importance for human development of the ability to use research methods: to collect the necessary information, facts; be able to analyze them from different points of view, put forward hypotheses, draw conclusions and conclusions.

If a school graduate acquires the above skills and abilities, he turns out to be more adapted to life, able to adapt to changing conditions, navigate in various situations, and work together in different teams[1-4].

The project method always involves solving a problem. And the solution to the problem involves, on the one hand, the use of a set of various methods and means of teaching, and on the other hand, the need to integrate knowledge and skills from various fields of science, technology, technology, and creative fields. The results of completed projects should be "tangible": if it is a theoretical problem, then a concrete solution, if practical, a concrete result ready for implementation.

A training project is defined as a purposeful activity organized in a certain way. The result of the project activities of students under the guidance of a teacher is new knowledge[3].

Multimedia textbooks make it possible to raise the question of the relationship between distance and traditional education. Distance learning is often viewed as a stand-alone form of education, as opposed to the traditional one. Information technology at this stage involves the unification of ways of working with a variety of programs, programs for working in networks are closely linked with the rest of the standard application programs (office applications) in terms of unification of the (graphical) user interface. As a result, training courses designed to automate traditional learning are relatively easily transferable to distance learning.

Multimedia creates psychological moments that contribute to the perception and memorization of material using the student's subconscious reactions: for example, summing up or issuing an assignment in each lecture of a distance course may be preceded by a certain sound or melody that tunes the student to a certain type of work. This is provided in advance,

in the course of preparing the course and does not require the concentration of the teacher's attention [5,7,8].
At the same time, it is important to keep in mind certain limitations for multimedia CTC arising from the technical nature of the means used to transfer information. The speed of text transmission surpasses the speed of human reading. The transmission of sounding speech and music faces limitations. Modems of average quality, which are feasible for schools in the near future, do not allow maintaining the natural tempo of speech and music. A medium-sized painting is perceived by a person in a matter of seconds, and its transmission over the network takes a few minutes. However, technical progress in this area is proceeding at such a rapid pace that these restrictions should not be considered insurmountable in the next 5 years.
From the point of view of the software tools used, there is a tendency to an increase in the "aggressiveness" and targeting of information supply, the transition from scattered information servers to information channels that concentrate in a single stream various and extremely rich content-based information on broadly defined thematic headings, such as "Sports", "home and entertainment", "education". This approach is to some extent explained by the fact that the search engines available on the Internet are not effective enough, they give out a lot of documents that are not related to what the subscriber needs. Therefore, there is a rollback to the old, but reliable systems of hierarchical classification of documents available in the vast information deposits of the Internet [10].
From the point of view of the PCs used, there is an increase in the complexity of programs running on the subscriber's PC, which is allowed by modern powerful machines. As a result, many "content enrichment" and multimedia functions are transferred to the subscriber's machine, which reduces the amount of information transmitted over the network and allows the creation of very rich in pictorial elements and structurally complex multimedia information channels.

Conclusions

Our education, like the whole society, is in a state of crisis. Even if we ignore economic problems that are beyond our control, there are purely pedagogical conceptual problems, the solution of which really depends on us[6].

1. Teaching methods. Until now, in our conditions and system, the priority remains with the explanatory-illustrative and reproductive methods, which are adequately correlated with the structure of the teacher's and students' activities in the lesson: the introduction of new material (by the teacher), its consolidation (under the guidance of the teacher), reproduction (memorization) and application. This ratio of activities was adequate to the goals of forming obedient performers. In accordance with the trend established in modern didactics, aimed at realizing the task of forming a free creative personality, at the educational process in which the student is not an object, but a subject of cognitive activity, the priority should be for independent activities, for independent activity of students on the search, processing, comprehension and application of the necessary information. This does not mean at all that explanatory and illustrative methods, frontal types of work are excluded from the lesson. We are talking about a shift in emphasis and priorities.
It seems that in our power it is broader and bolder to introduce such approaches to learning, which are based on the method of cooperation, on the method of projects, on multilevel learning, reflecting a personality-oriented approach to learning. Global thinking should become one of the goals of education and human development.

2. Organizational forms of training. In the trends outlined here (and in those that have not been reflected in this book), it becomes more and more obvious that the classroom-lesson system as the only form of work at school is in conflict with promising methods and means of teaching. Work in groups, work on projects cannot fit into the strict schedule of the lesson. It requires more flexible forms of organizing classes.

3. Learning tools. However, there is a whole system of traditional ones (textbooks, handouts, tables, banners, slides, etc.), many of which retain their didactic significance for the future. It is important to find ways to integrate them with new tools. The mass media are also becoming more and more important. All systems reflecting new trends in the development of education, new approaches to teaching, should be developed within the framework of the general concept, implementing its content and methodological parts [9-11].
The introduction of new information technology tools in education also requires serious research work, which determines the success of the development and use of these tools in the educational process. This work should include problems:

- selection of training content in accordance with new areas of education, taking into account the didactic properties and functions of new information technologies (it is important to keep in mind that a huge array of reference, factual material can go into databases for operational use, the possibility of using databases in the future) data from various scientific and information centers, libraries, etc.);
- the impact of expert systems of artificial intelligence on the nature of thinking of schoolchildren and teachers;
- ways of combining, integrating new information technologies with traditional and mass media;
- ways of managing the cognitive activity of students in such a wide information and subject environment.

Telecommunication projects are justified pedagogically in those cases when, in the course of their implementation: multiple, systematic, one-time or long-term observations of a particular natural, physical, social, etc. phenomenon are envisaged, requiring data collection in different regions to solve the problem posed; it is assumed a comparative study, research of a phenomenon, fact or event that occurred or took place in different localities, in order to identify a certain trend or make a decision, develop proposals, etc.; a comparative study of the effectiveness of using the same or different (alternative) methods of solving one problem, one task is planned to identify the most effective method of action acceptable for any situations, i.e. to obtain data on the objective effectiveness of the proposed way of researching the problem; a joint creative development of an idea is proposed: purely practical (for example, breeding a new plant variety in different climatic zones, observing weather phenomena, etc.) or creative (creating a magazine, newspaper, play, book, musical work, proposals for improving the curriculum, sports, cultural joint events, folk holidays, etc.); it is planned to hold exciting adventure joint computer games and competitions. Telecommunication projects of any kind, like the project method itself, can be considered only in the general concept of training and education.

The organization of telecommunication projects requires special and sufficiently thorough training for both teachers and students. Such a project should be especially structured in detail, organized in stages, taking into account the intermediate and final results.

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