



# ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING

**KHOREZMSCIENCE.UZ**





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**POSSIBILITIES OF USING STUDENTS' PROFESSIONAL COMPETENCE USING SOFTWARE EDUCATIONAL TOOLS**

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**Annotatsiya.** Mazkur maqolada talabalarning kasbiy kompetentligini dasturiy ta'lim vositalaridan foydalanish imkoniyatlari, o'quv mashg'ulotlarda dasturiy ta'lim vositalarining didaktik imkoniyatlaridan samarali foydalanish, ta'lim muassasalari korxonalariga malakali kadrlar yetkazib berishda "vertikal integratsiya"ni amalga oshirish yo'llari, ta'lim tizimida qo'llaniladigan dasturiy ta'lim vositalari turlari, ta'lim jarayonida metodik ta'minotni dasturiy ta'lim vositalari yordamida tashkil qilishga doir ma'lumotlar bayon qilinadi.

**Kalit so'zlar.** Dasturiy ta'lim, mashg'ulot, kasbiy kompetentlik, metodik ta'minot, didaktik imkoniyat, o'quv materiali, ta'lim sifati, integratsiya.

**Abstract.** In this article, the possibilities of using software educational tools to improve the professional competence of students, the effective use of didactic possibilities of software educational tools in training sessions, the ways of implementing "vertical integration" in the supply of qualified personnel to enterprises by educational institutions, the methods used in the educational system types of software training tools, information on the organization of methodical support in the educational process with the help of software training tools is described.

**Key words:** Software education, training, professional competence, methodological support, didactic opportunity, educational material, quality of education, integration.

**Аннотация.** В данной статье рассмотрены возможности использования программных образовательных средств для повышения профессиональной компетентности студентов, эффективное использование дидактических возможностей программных образовательных средств на учебных занятиях, пути реализации «вертикальной интеграции» в обеспечении предприятий квалифицированными кадрами. В образовательных учреждениях описаны методы, используемые в системе образования, виды программных средств обучения, сведения об организации методического обеспечения учебного процесса с помощью программных средств обучения.

**Ключевые слова:** Программное образование, обучение, профессиональная компетентность, методическое обеспечение, дидактические возможности, учебный материал, качество образования, интеграция.

**Introduction** In the process of modernization of higher education in our country, special attention is paid to the supply of qualified specialists. In the Action Strategy for the further development of the Republic of Uzbekistan, "Further improvement of the continuous education system, increasing the possibilities of quality education services, continuing the quality of training of highly qualified personnel in accordance with the modern needs of the labor market" is defined as an important priority task. This requires the creation of a scientific-methodical system based on the conditions for the formation of the professional competence of students in technical higher education institutions at the level of international educational standards, as well as the research of practical methods of using software training tools in the development of functional mechanisms of independent education.

Education, especially higher education, is considered the main factor of socio-economic development. The reason for the appearance of such attention is that the highest value and main capital of society is a person, who is able to find and change new knowledge and adopt effective solutions [2].



Reforms in higher education were raised to the level of state policy, and it was recognized that the development of education determines the future development of our country. Within the framework of this policy, noteworthy activities are being carried out:

- increase in requirements for the quality of knowledge
- renewal of the function of higher education (training of a "specialist" rather than a "graduate")
- increase in the quality of the student contingent and the number of higher education institutions,
- introduction of innovative technologies, etc.

It is possible to achieve a high result or efficiency by effectively using the didactic capabilities of software tools in training sessions. The main goal of using teaching and methodical materials and electronic educational literature created on the basis of computer software tools in the effective organization of training sessions is to create a modern software training environment, to increase the quality, efficiency and effectiveness of the training process by using software training tools.

The fact that modern higher education institutions find their customers themselves and closely cooperate with them means that there is a high demand for graduates [3]. Therefore, the level of personnel, their competitiveness in the labor market is a product of the quality education process.

In this regard, in order to ensure the growth of the quality of education, it is very important to control, manage and eliminate its defects step by step. Testing the experiences of foreign countries in certain higher education institutions of our republic, and in case of positive results, their wide implementation and popularization shows its effectiveness in improving the quality of education and training competitive highly qualified personnel.

**Literature review.** Increase students' ability to understand the content of the educational material; explaining to students the dependence on digital technologies (autism); development of students' ability to think logically; creating motivation in the formation of professional skills; summarizing, summarizing thoughts with memory features; perseverance, aspiration and goal setting; compliance with ethical rules of interaction in imperative and manipulative communication; explaining to students the factors and consequences of ludomania symptoms; encouraging students to be patient and innovative.

B. Torayev in his researches about the methodical support of students' learning activity states the following: education is effective only when it is built as a methodical system. The specific features of the modern methodical system of education are shown in the following [9].

In the dissertation of A.R. Jorayev on the topic "Improving the methodology of formation of professional competencies of future teachers based on programmed educational tools" in the process of preparing students for professional activities based on the competency approach, didactic possibilities of forming general technical skills in the qualification requirements by using programmed educational tools were developed. developed [5].

In his research, A.A. Verbisky emphasizes that the main social, personal values and principles of the human soul, all mental processes of the soul are considered as an integral unit of the body, and the correct formation of these units serves as an important tool in the implementation of the goals of the human being with the help of established psychological programs [1].

S.Kh.Aliboyev's thesis entitled "Improving the Methodology of Creating and Using Interactive Electronic Training Simulators" in the process of training specialist personnel in higher education institutions, the wide application of interactive software tools, digital technologies, forms of distance education, open educational resources, mixed the use of electronic educational resources in the development of educational (online,/offline) technologies is considered as an urgent problem.

**Analysis.** Today, employers in the labor market pay attention not only to the professional knowledge and skills of specialists, but also to the presence of the following personal qualities:

- independent critical thinking, the ability to see emerging problems, the ability to find ways to rationally solve them using modern technology;
- ability to think independently and solve various problems;
- acquired critical and creative thinking;

- ability to flexibly adapt to changing life situations while independently acquiring the necessary knowledge;
- the ability to apply knowledge in practice to solve problems;
- clearly imagines the possibilities of how to apply existing knowledge;
- the ability to generate new ideas;
- the presence of a rich vocabulary based on a deep understanding of humanitarian knowledge;
- competence in working with information; communication (communicability).

Undoubtedly, any model that is being designed must be related to the professional activity of future specialists, which is the main link of the system of personnel training with competitive high competence.

If we take into account that informatization of society is one of the global problems, in comparison with other trends of modern society development, informatization comes to the fore [7].

Today, the sharp increase in the introduction of new modern software educational tools and information technologies divides the new information environment for human life, that is, software educational tools into several groups.

Educational institutions remain constant partners in the supply of qualified personnel to enterprises. Such cooperation is usually called "vertical integration" between industry and higher education.

In this integration, the following can be done in the process:

1. In the process of joint action, equal participation of both parties is ensured; Heads of enterprises are involved in the board of trustees of HEI (Higher Educational Institution); It is ensured that organizations participate in scientific research works and projects, as well as in the formation of entry quotas of HEIs [8].

2. Production practices are organized based on the establishment of department branches in enterprises, and mature specialists are involved in this process.

3. The enterprise participates in the improvement and development of the material and technical base of the Higher Education Institution, in the updating of laboratory equipment, and in the retraining of personnel.

4. HEI studies existing scientific problems in the enterprise and participates in solving them with its suggestions.

Such integration requires a comprehensive approach and ensures the development of both sides. That is why innovative corporate cooperation with production enterprises is considered one of the main issues in the next years.

A professionally oriented model of training based on cooperation between a higher education institution and production enterprises creates a wide range of opportunities for students:

- the demand for graduates of these higher education institutions will increase in the labor market due to the increased level of competence of future specialists;
- ensures the direct participation of professors and academic staff in the production process;
- students prepare themselves for jobs in advance, they are distinguished by their highly developed skills and qualifications;
- exchange of scientific and practical experience between higher educational institutions and enterprises;
- it is possible to develop a system of additional incentives for students based on the implemented project, innovative activities and business contracts.

The formation of the labor market in the conditions of market relations requires the training of highly competitive specialists with a deep understanding of their field and a high level of professional competence. Because every enterprise must occupy its economic position, be ready to overcome competition, and ensure its continuous development. The enterprise should constantly strive to expand the scope of production, increase its share in the market, cover new areas. So, the company has its own interests in the formation of specialists with a high level of competence.

**Discussion.** The process of modernization of education has brought us learning through multimedia scenarios, educational video and audio materials, 3D software, virtual museums, libraries

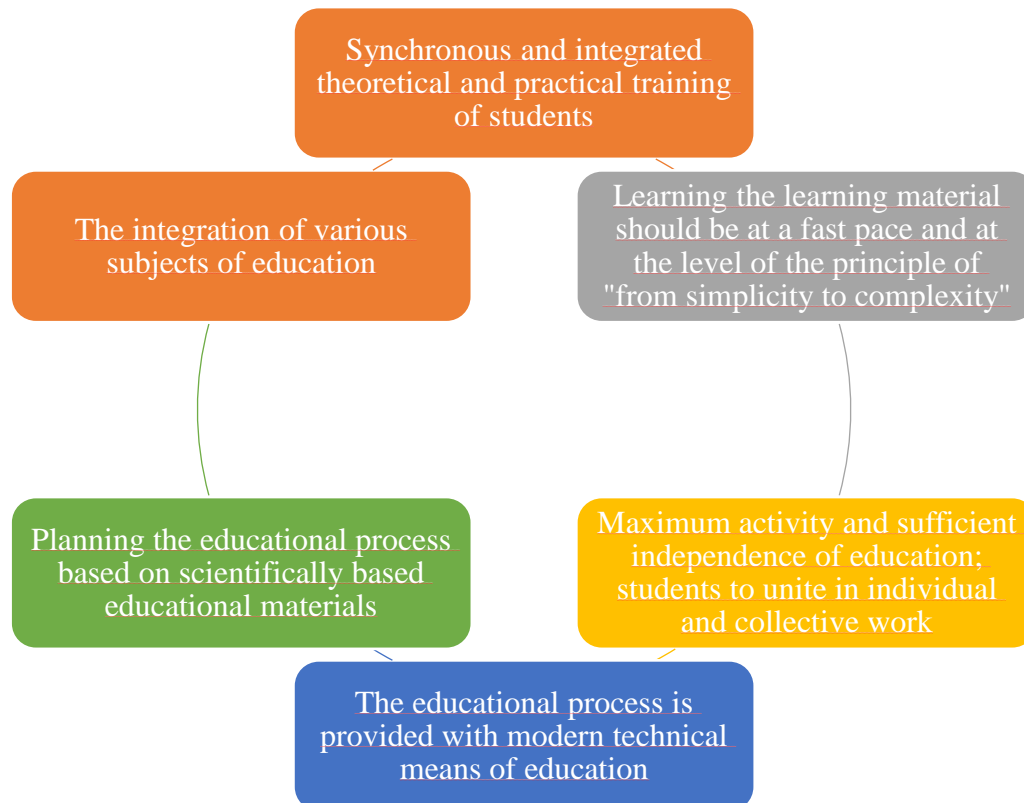
and laboratories. They allow everyone to access educational materials, video tutorials, as well as participate in video tournaments, use electronic libraries and keep electronic diaries.

Along with free access to the content of higher education, software educational tools create wide opportunities for shaping the educational process, taking into account the professional abilities of each learner. Also, textbooks are digitized at the request of users, and distance courses are being organized based on them [10].

Software is divided into two types, i.e., systematic and practical software, and in this work mainly programs used in the educational process (creators of electronic textbooks and manuals, mobile programs) and educational management systems from software systems such as LMS (Learning Management Systems), CMS (Content Management Systems) improvement of users' knowledge, skills, and abilities was studied.

If we look at methodical support in the educational process as a theoretical concept built in a certain conditional sequence, the factors that need to be supplemented from the point of view of digital education can be enriched with the concepts of a skilled pedagogue and modern educational content [6].

However, it is worth highlighting the impact of ICTs used in the education system on the effectiveness of the teaching process. Efficiency and productivity are one of the universal criteria for evaluating the successful operation of any social system. The universal criterion for evaluating effectiveness in education is the satisfaction of all organizations with the work of members of this institution.



Currently, the higher education system cannot provide sufficient breadth and depth of fundamental knowledge. The problem is that the future specialist must have the skills and professional mobility to quickly respond to changes that occur constantly in practical and scientific activities, in general social life [4]. This result can be achieved if higher education can provide a graduate with a common unified methodology of professional activity.

Based on digital analysis in the field of ICT, we see that demand and supply will be presented to users through a clear and understandable database, the formation of a digital education market in the field of programming, and development trends will be realized without human participation. Clearly, we can see mobile learning in a broad sense leading to educational independence for learners.



**Conclusion.** Legal and ethical concepts are also the main factor of great importance in the organization of activities with software educational tools. Implementation of concepts in this regard at the lower stages of education, that is, joining various target groups in social networks, serves to prevent vices such as network criminals. In order to prevent the development of the above negative problems, digital educational materials should be up to date and, most importantly, satisfy the student's interest in science.

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