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DIGITALIZATION OF EDUCATION IS A REQUIREMENT OF THE TIME

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Summary: the article discusses the prospects for the development of innovative technologies in the context of the digital transformation of education. The modern directions of research in the field of introduction of innovative technologies in the educational process are analyzed. Examples of software and pedagogical tools are given that allow performing all types of workloads of students. The psychological and pedagogical conditions accompanying the educational process are indicated.

Keywords: innovative technologies, information and communication technologies, innovative skills, highly qualified specialist, and motivation.

ЦИФРОВИЗАЦИЯ ОБРАЗОВАНИЯ – ТРЕБОВАНИЕ ВРЕМЕНИ

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Аннотация: в статье рассматриваются перспективы развития инновационных технологий в условиях цифровизации образования. Проанализированы современные направления исследований в области внедрения инновационных технологий в образовательный процесс. Приведены примеры программно-педагогических средств, позволяющих выполнять все виды рабочих нагрузок студентов. Указаны психолого-педагогические условия, сопровождающие учебный процесс.

Ключевые слова: инновационные технологии, информационно-коммуникативные технологии, инновационные навыки, высококвалифицированный специалист, мотивация.

At present, great attention is paid to the education system in our country, as this is caused by the development and expansion of international socio-political relations, as well as the development of technology, the need for the development of a professionally competent cultural personality of a student is increasing. The economy of any state in its development is impossible without quality education. The rapid development of the economy, due to technological progress, puts forward new requirements for the professional training of students. Compliance of education with world standards provides, first of all, integration into the international educational space. The stated requirements provide for the formation of educational results in the form of the following competencies: general cultural, general professional, and subject, as well as digital competence (information and switching technologies). Therefore, the need to improve the content of educational programs is simply obvious. Active introduction of electronic, blended, mobile learning into the educational process; only contributes to the practical activity of future specialists. It is innovative educational technologies that primarily involve the use of computer networks, web applications, and interactive services, which makes education more accessible, stimulates the cognitive interests of students, and increases motivation for education.

Thus, the process of education in the training of specialists in non-linguistic universities must meet the evolving needs of society. As a result, the priority tasks of higher education at the present stage are the transformation of the learning process, the basis of which implies the reform of educational and professional activities for the training and education of specialists, which implies a high level of overall development.

The relevance of the problem is determined by the specificity of the educational process that meets the requirements of its time. The rapid integration into the world space undoubtedly affects the socio-cultural aspect of public life, which naturally leads to a change in the requirements imposed by society on the education system, in particular, on language learning. Today, the globalization of culture and education imposes on a modern specialist, among other things, such requirements as the ability to work with the Internet in search of the necessary information, work with both domestic

and foreign literature, and the ability to analyze the extracted information, maintain a conversation, that is, to communicate freely in a foreign language. Poor knowledge of the language by a specialist in the process of exchanging information at the international level will only negatively affect the professional competence of a specialist.

Engineering and innovation are inseparable concepts. These symbiotic relationships are manifested in the workplace of engineers, in the processes of engineering research and development, and are also present in the methods of training engineers. Innovation in teaching methods in engineering is a must-have activity for a variety of reasons. First, innovative skills should be present in all higher education teachers, but especially those involved in engineering.

Secondly, the structures, practices, and methodologies of the current educational systems are not well suited to meet the needs for language training in the specialty. In the second half of the last century, international thinking about education began to move towards a new paradigm. This shift was driven by the realization of massive and ongoing social, economic, and technological changes, and the exponentially increasing body of human knowledge generated by international thinking began to explore questions about the role and purpose of education in a world with an unprecedented increase in complexity, fluidity and uncertainty [5].

Thirdly, future specialists are called upon to be highly qualified professionals in order to be in demand in the labor market. The main expectations of employers from modern specialists is creativity as a key competence of leaders. They are expected to come up with creative ideas and innovations to achieve competitive advantages and new business opportunities [7].

And fourth, innovation is directly related to the ability to solve problems. To resolve the difficult situations that future specialists will have to face, they will have to constantly learn from formal, informal, and, especially, informal sources [9]. Therefore, language competence is more than ever welcome.

Innovation is essentially the creation and implementation of new processes, products, services, and delivery methods that result in significant improvements in efficiency, effectiveness, or quality of results. Thus, the most important elements of innovation are the following: 1. Novelty, the creation of something new. 2. The process itself. 3. It should provide some quantitative or qualitative improvement in the results.

Many scholars view educational innovation as a process of changing teaching or learning activities that leads to improved learning outcomes. However, in order to consider this process as an educational innovation, it must meet certain requirements: 1) it must be efficient and effective; 2) it must be stable over time; 3) it must give transferable results outside the specific context in which it originated.

The teaching of a foreign language to future professionals is always open to evolution including the enormous opportunities arising from technological progress. Remote and virtual labs, robotic applications, 3D virtual worlds, augmented reality developments, sophisticated data visualizations, and mobile applications are just some of the emerging technological support for problem-based learning, case-based learning, and online learning. All these approaches are associated with a more active student-centered education in engineering subjects.

Therefore, it is important to analyze the real impact of these innovative approaches to teaching in engineering education, just to be ready to disseminate and share these successful examples and lessons learned from previous experiences. Let's consider some of them.

The analysis of scientific literature shows that in the era of digital technologies, promising means of learning are: computer technology (multimedia), mobile technology, e-learning system modeling (software), learning systems using tactile simulators, virtual laboratories, gamification, and the use of robots, robotics and massive open online courses (MOOCs). At present, traditional means and methods of teaching are not enough for students. Today's generation of young people have been using gadgets since childhood, so they do not want and cannot learn in the old way. Accordingly, it makes sense to use smartphones and tablets in the classroom to good use in order to interest students, involve them in the learning process and motivate them to study the subject. This question has been actively raised among scientists in recent years. Mobile devices are widely used in education in general [3, 13] and in the field of engineering in particular [14]. Such training is rapidly entering the field of education and brings with it huge advantages over traditional methods and means. For example, S. V. Titova points to the following useful applications in mobile devices that facilitate the learning process. These are study guides, dictionaries, reference books, course planners, specialized search engines, lecture podcasts, news feeds, educational websites, etc. [4].

Innovative educational technologies are considered by many scientists as an inevitable paradigm of human-computer interaction [9], which is widely used in educational innovative methods in the field of engineering.

Gamification, game-based learning [1, 10, 11] are other interesting topics that are distinguished by the rapid presence in the innovative educational movement in technology, specifically focused on achieving greater performance and motivation among students [12].

Another interesting topic is the use of robots in the classroom as a didactic and innovative method [6]. Using robotics in teaching at the level of computer engineering with the help of an action-research approach contributes to the improvement of understanding and perception of the subject.

On the other hand, another current topic that is interesting to discuss is the problem of open professional language education in language education, especially the phenomenon of MOOCs (massive open online courses). The main question is how to achieve the personalized interaction that design processes demand with the massive audience of MOOC approaches. Many works of foreign authors are devoted to the MOOC phenomenon. Many of them are controversial about MOOCs, some think that such mass and open education will revolutionize and change the educational reality, but others question the validity and quality of the MOOC model [8]. Yet most of the literature says that MOOCs are well received by engineering students and practicing engineers.

Thus, innovative technologies in the academic environment are only a means of learning in the hands of a competent teacher. It is the use of innovative technologies in a traditional school of education that gives an innovative character to educational technologies. Many researchers and educators in their work are trying to find new methods, ways, and forms of education, find devices with errors in scientific technologies in the context of digitalization of education. To achieve results and scientific research in the field of professional training of specialists is not an easy task. With all this, one should not forget about the psychological and pedagogical conditions for supporting the educational process [2]. Problems of the formation of internal sustainable motivation, that is, the phenomenon of motivation, the phenomenon of emotional effect, the environment of emotional harmony of the educational process, as well as the personality of the teacher. As practice shows, innovations in education significantly improve academic perception, support positive motivation, and improve existing teaching methods.

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**ПОДГОТОВКА УЧЕБНО-МЕТОДИЧЕСКИХ МАТЕРИАЛОВ
ПО ЯЗЫКОВОМУ ОБУЧЕНИЮ СТУДЕНТОВ
ТЕХНИЧЕСКИХ ВУЗОВ**

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Аннотация: в статье рассматриваются проблемы подготовки учебно-методических материалов в целях эффективного обучения студентов неязыковых вузов иностранному языку. Предлагаются некоторые методы отбора и презентаций учебного материала для формирования и развития коммуникативной компетенции на иностранном языке.

Ключевые слова: язык, изучение языка, учебно-методический.