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POSSIBILITIES OF USING INFORMATION TECHNOLOGIES IN PROFESSIONAL ACTIVITIES USING INTERACTIVE SOFTWARE IN AN ELECTRONIC LEARNING ENVIRONMENT

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Annotation

In this state, the pedagogical, methodical, and technological possibilities of application of information technology and professional data are analyzed and the basics of using interactive software tools and an electronic educational environment are analyzed. The established role of the electronic educational environment in the development of professional competence of future specialists and the conditions of digital transformation, revealed the didactic potential of the interactive platform, the possibility of individualization of training, automation of assessment and monitoring, and also the organization of practical-oriented professional work. Na osnove kompetentnostnogo pokhoda, deyatelnostnogo obucheniya i principov cifirovoy pedagogiki razrabotany teoricheskie vyvody i prakticheskie rekomendatsii po effektivnomu ospolzovaniyu interaktivnyx programmnyx sredstv.

Key words

electronic educational environment, interactive software tools, information technology, professional activity, digital competence, digital pedagogy, distance learning, education quality.

In the current context of globalization and digital transformation, one of the most important tasks facing the education system is to prepare future specialists for the effective use of modern information technologies in their professional activities . The rapid development of information and communication technologies is not only fundamentally changing the spheres of production, management, economics, medicine, engineering and education, but also renewing the requirements for the professional training of specialists [1].

In the modern labor market, a specialist is required not only to have theoretical knowledge and traditional skills, but also:

- using digital tools,
- data analysis and work on electronic platforms,
- interactive communication and remote collaboration,
- the ability to solve technological problems

are required [2].

These needs make the formation of an electronic learning environment in the education system , its enrichment with interactive software tools , and the organization of professionally oriented training on this basis an urgent issue. Today, the electronic learning environment is not only a means of organizing education, but also a pedagogical system that models professional activity, forms digital skills, and manages educational outcomes [3].

The research problem is that, although the use of electronic learning platforms and interactive tools is expanding in practice, there is a need to analyze them on a systematic basis as a competency mechanism that serves to apply information technologies in professional activities . In particular, the didactic capabilities of interactive software tools, the organization of professional tasks in a digital environment, the automation of monitoring and assessment, as well

as the integration of the educational process with professional activities require sufficient scientific and methodological coverage [4].

Based on this, the purpose of this article is to scientifically, theoretically and methodologically substantiate the possibilities of using information technologies in professional activities based on the use of interactive software tools in an e-learning environment.

This study was based on the principles of a competency-based approach , an activity-based approach , digital pedagogy , interactive learning technologies , and person-centered education .

1. Scientific and pedagogical essence of the electronic learning environment

An electronic learning environment (EL) is an integrated system of modern education organized in digital form, combining pedagogical, information, communicative and control components . The results of the study show that EEL is not only a technical platform for delivering educational materials, but also a pedagogical environment for managing educational activities and forming professional competencies [3].

The e-learning environment consists of the following main components:

1.1. Information resource component

This component includes electronic textbooks, video lessons, presentations, tests, multimedia content, virtual laboratories, and digital learning modules. These resources allow the student to independently and repeatedly master the learning material.

1.2. Communicative component

Interactivity between learning subjects is provided through forums, chats, video conferences, online discussions, and cloud documents. This component is important in organizing collaborative learning, project-based activities, and distance learning [8].

1.3. Monitoring and evaluation component

Interactive tests, assignments, automated assessment systems, and analytical monitoring tools allow for objective, rapid, and systematic monitoring of learning outcomes.

1.4. Analytical and management component

This component allows you to monitor the learning process, track user activity, analyze learning indicators, and define individual learning trajectories.

Analysis shows that it is this multifunctionality of the ETM that makes it an effective pedagogical tool for professional training.

2. Didactic potential of interactive software tools

Interactive software tools are tools that provide active user participation, communication, feedback, and practical activity in the educational process. Their didactic potential is manifested in several directions.

2.1. Increasing learning motivation

Interactive tools (Kahoot, Quizizz, Wordwall, leorningapps, fliptiy.net, etc.) introduce game elements, visuals, and quick response mechanisms into the learning process. This encourages students to actively participate and increases intrinsic motivation [4].

2.2. Implementing an active learning model

Interactive tools, rather than transferring knowledge in a ready-made form, form it on the basis of **active research and independent mastery** . The student performs tasks, makes mistakes, tries again, analyzes and draws conclusions. This process corresponds to the requirements of constructivist pedagogy [5].

3. Competency opportunities for the use of information technologies in professional activities

The study showed that the use of interactive tools in an e-learning environment develops the following key competencies in future specialists:

3.1. Digital literacy and information literacy

Student:

- seeks information;
- sorts it out;
- analyzes;
- processed electronically;
- visualizes the result.

This competency is considered a universal basic competency necessary for any professional activity [2].

3.2. Digital communication and collaboration competence

Using cloud platforms, video conferencing, and online collaboration tools, students can:

- works in a team;
- distributes tasks;
- conducts a discussion remotely;
- embraces the culture of digital communication.

3.3. Problem-solving and technological thinking competence

Interactive assignments, cases, project work, and practical exercises help students:

- problem identification,
- to analyze,
- developing solutions,
- of choosing an appropriate technological tool[6].

One of the most important aspects is that interactive software tools create the future specialist's experience in using digital tools appropriate for their profession.

For example:

- **teacher** - creates an electronic course, test, presentation, video lesson;
- **economist** - creates spreadsheets, reports, and analytical dashboards;
- **Engineer** - works with modeling, technical drawing, and calculation programs.

This situation allows for direct integration of education with professional activities.

Practical models of interactive teaching focused on professional activities

According to the results of the study, the following practical models of using interactive tools in an e-learning environment are considered effective:

Analysis shows that the use of interactive software tools in an e-learning environment is an effective means of improving the quality of education, strengthening professional training, and connecting information technologies with real-world activities . However, a number of conditions are necessary for these opportunities to be fully realized.

First, teachers' digital pedagogical competence must be sufficiently developed. Because an interactive tool does not produce results by itself; it is effective only when used in a didactic, methodologically sound , and professionally oriented manner [5].

Secondly, the tasks used in the e-learning environment should be more problematic, analytical, practical, and close to professional situations than simple reproductive exercises . Only then will the student be able to develop skills appropriate to his professional activity using digital tools.

Third, the effectiveness of the use of interactive tools increases when combined with analytical mechanisms for monitoring learning outcomes , defining individual trajectories , and managing learning .

Conclusion

The electronic learning environment is of great importance as an integrated pedagogical platform in preparing future specialists for digital professional activities. Interactive software

tools provide the activity, visuality, practicality and individualization of the educational process, creating the necessary conditions for the application of information technologies in professional activities. With the help of these tools, students develop: digital literacy, working with information, problem solving, digital communication,

professional and practical competencies is formed effectively.

The use of professional-oriented tasks, virtual practices, project work and automated assessment tools in the electronic learning environment is one of the effective mechanisms for improving the quality of education. The effectiveness of the use of interactive tools directly depends on their pedagogical expediency , methodological basis and integration with the professional context . Thus, the use of interactive software tools in the electronic learning environment is an important pedagogical and technological basis for the application of information technologies in professional activities.

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