



PECULIARITIES OF METHODOLOGICAL FORMATION OF PROFESSIONAL QUALITIES IN TEACHERS OF FUTURE TECHNOLOGICAL EDUCATION BY MEANS OF VIRTUAL TECHNOLOGIES

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Today, technology is also developing as time is rapidly advancing. The "Technology" field of education is an integral part of the field of education and prepares students for creativity and activity, professional self-awareness, independent work related to occupation of various professions of school graduates in the future. The main goal of technological education is the formation of technological culture, which envisages mastering the system of methods and means of creative activity for creating material and spiritual values. It is to master modern and promising energy-saving, material-saving and waste-free technologies, methods of combating environmental pollution, working culture; planning and organization of the work process, technological discipline, proper provision of the workplace with equipment, labor protection, computer processing of documents, business culture, basics of creative activity, implementation of projects; It involves learning to identify the possibilities and requirements of project activity, collect and analyze information, promote a project idea, research this idea, plan, organize, perform work, and evaluate it. "Technology" is an educational field that synthesizes mathematics, physics, chemistry, biology and other scientific sciences and shows how to use them in production, energy, communication, agriculture, transport and other fields[88].

According to VDSimonenko, the owner of technological culture is a creative person with developed creative, communicative, social, research, informational, general cultural and general professional skills and abilities. He has the ability to think and act out of the ordinary [112].

Currently, there are various definitions of pedagogical technology in pedagogical literature, information on educational problems, and official documents, which are reflected in the following works [55].

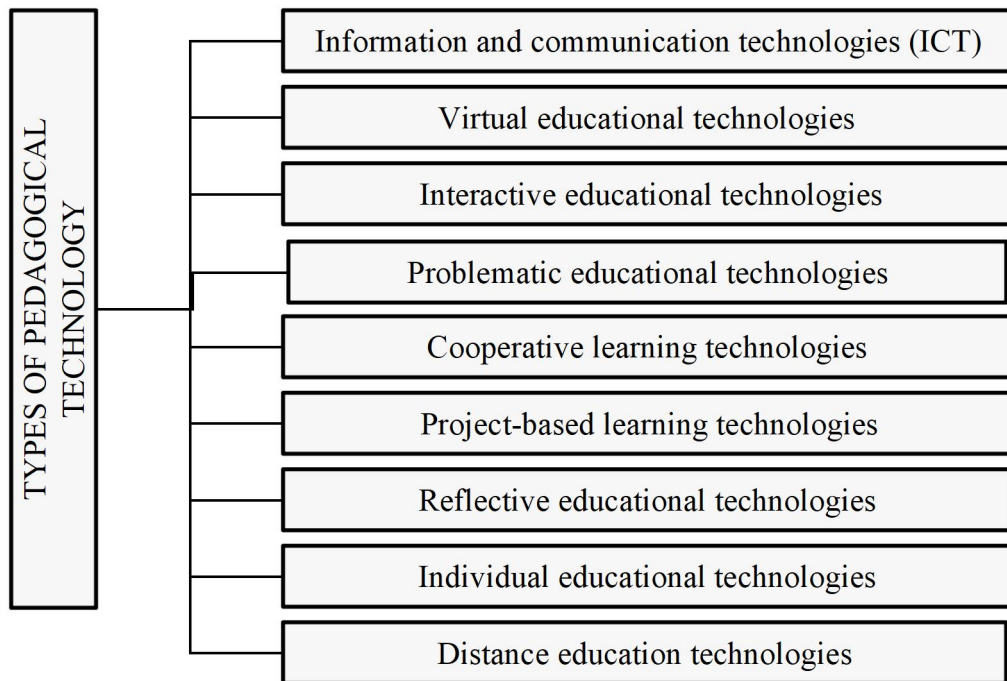


Figure 1.2.1. Types of pedagogical technology.

Pedagogical technologies include modern approaches and methods in organizing and managing the teaching process. These technologies are aimed at improving the learning process of students, increasing their interest and improving educational efficiency. There are several types of pedagogical technologies (Fig. 1.1.) :

1. Information and communication technologies (ICT)

1.1. E-learning: Teaching through online courses, virtual classrooms, video tutorials and webinars.

1.2. Multimedia tools: Use of audio, video, graphics and animations in the educational process.

2. Virtual technologies: Virtual educational technologies are used to make the educational process more effective, interesting and convenient. Below we consider the main types of virtual educational technologies:

2.1. Virtual Reality (VR - Virtual Reality). Virtual lessons and simulations: with the help of VR technology, students have the opportunity to experience lessons in virtual environments or simulate complex processes. Examples: virtual laboratories, virtual tours of historical sites.

Platforms used with devices such as Oculus Rift and HTC Vive .

2.3. Augmented Reality (AR - Augmented Reality). AR Curriculum: Students learn science by adding virtual elements to real-world images. Examples: Anatomy 4D, Elements 4D.

2.4. AR Applications: Educational applications using AR technology using smartphones and tablets. Examples: Google Expeditions, Quiver.

2.5. Mixed Reality (MR - Mixed Reality). MR Learning Environments: Students interact with real and virtual objects and understand complex concepts. Examples: Microsoft HoloLens educational applications.

2.6. Online Learning Platforms. Massive Open Online Courses (MOOCs): Platforms such as Coursera, edX, Udemy offer open online courses to the masses.

2.7. Virtual Classes: conducting live classes using tools such as Zoom, Microsoft Teams, Google Meet.

2.8. LMS (Learning Management Systems). Learning Management Systems: Platforms such as Moodle, Blackboard, Canvas are used to manage and monitor the learning process.

2.9. Gamification (Games). Game-based learning: Using game elements to engage students in the learning process. Examples: Kahoot!, Classcraft.

2.10. Interactive Learning Materials. E-Books and Resources: E-books and educational materials with multimedia and interactive elements. Examples: Apple iBooks, Google Books.

2.11. Simulations and Models: Creation of interactive laboratory works and material models in a virtual environment. Examples: PhET Interactive Simulations.

2.12. Mobile Education. Mobile Educational Applications: Educational applications specially created for

smartphones and tablets. Examples: Duolingo, Khan Academy.

2.13. Video Educational Resources. Educational Videos and Courses: Platforms such as YouTube, Khan Academy, Lynda.com offer educational videos.

These technologies will significantly improve the quality of education by digitizing the teaching process, increasing interactivity and providing opportunities for learning anywhere and anytime.

3. Interactive educational technologies

3.1. Interactive whiteboards: Teaching with the help of an electronic board and a projector.

3.2. Mobile applications and games: Applications and games designed to present learning materials in an interesting and engaging way.

4. Problematic educational technologies

4.1. Problem-based learning: Developing independent thinking and logical analysis skills by giving students a variety of tasks to analyze and solve problems.

5. Cooperative educational technologies

5.1. Group work: organizing learning by dividing students into small groups, working together, discussing and doing projects.

5.2. Mutual learning: Students help each other, reinforce their knowledge and learn together.

6. Project-based teaching technologies

6.1. Project Method: A technology that allows students to conduct independent research and present results by working on a specific topic or project.

7. Reflective educational technologies

7.1. Reflection: Students analyze their activities and develop self-evaluation and self-development skills.

8. Individual education technologies

8.1. Personalized education: individualization of the educational process, taking into account the unique characteristics of each student.

9. Distance education technologies

9.1. Distance education: A technology that allows students to receive education regardless of their geographical location and other conditions.

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