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Methods and methods of teaching the science of technical training using digital education technology

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Abstract: This article aims to develop students' technical skills, providing them not only with theoretical knowledge, but also with practical skills. Preparing students for technical fields through modern technical methods, innovative technologies and interactive teaching methods helps them develop creative and independent work skills. It is thought that through this process, students will acquire the skills necessary for applying technical knowledge and working successfully in the future.

Keywords: Technical training, digital education, technology, ability, skill, qualification, competence, interactive method.

Introduction: Development of students' technical abilities. It plays an important role in the development of students' technical abilities, preparation for their future activities, formation of creative and practical skills. Technical skills are not only necessary for working in technical fields, but also help develop students' general thinking, problem-solving skills and innovative approaches. Technical skills of students can be effectively developed through the following directions: strengthening with theoretical knowledge, theoretical knowledge is an important basis for developing technical skills. Students need to study theoretical concepts in technical sciences, mechanics, electronics, materials science and other subjects in depth. Theoretical knowledge helps students better understand technical processes and concepts. Materials science, studying the properties of different materials and how they work strengthens technical skills.

Development of practical skills. The formation of practical skills is very important in the development of technical skills. Training students through activities such as working with technical equipment, designing and optimizing devices: Laboratory training and practical work. To teach students to work with technical devices and equipment, to develop their adjustment, use and repair skills. Design and model making. Develop students' practical skills by assembling small technical devices, creating projects and testing them.

Learning innovative technologies. Modern technologies and innovations are of great importance in the development of students' technical abilities. Students learn and use new technologies. Simulators and modeling programs. Teaching students simulation and modeling of various technical processes, which combines their practical skills and theoretical knowledge. 3D modeling and design software. Providing students with the skills to design and analyze technical objects using programs such as AutoCAD and SolidWorks.

Develop problem-solving skills. Developing technical skills should focus on problem solving and creative thinking. Engaging students in solving technical problems and solving them with creative approaches. Construction games and projects. To give students the opportunity to create their own ideas and develop creative approaches to solving practical problems. Project-based learning. Teaching students to solve problems based on real technical projects. This method encourages them to work in a team, take responsibility and think creatively.

Practical teaching methods. The use of practical teaching methods is effective in developing students' technical abilities. Gamification. Using elements of gamification in technical subjects, for example, giving

students points and medals for solving technical problems in time, makes the learning process interesting and effective. Simulation and virtual laboratories. Use simulation and virtual labs to teach students about various technical processes in a hands-on way. Craft-team activity. Encouraging students to work in groups, which will improve their skills in solving technical problems together.

Encouraging independent work. It is important to develop students' ability to work independently. This is done through the following methods. Project work. Giving students independent projects allows them to put their knowledge into practice. Experience and research. To give students opportunities to conduct various scientific and technical researches and try new technologies.

Technical notes and presentations. Teaching students to prepare technical notes and presentations for effective acquisition of technical knowledge. Writing technical documents. Teaching students how to prepare technical designs, drawings and calculations will increase their readiness for a professional environment. Representations and Defenses. Teaching students to present their work and explain technical topics, which develops communication and leadership skills.

Experiments and studies. Involve students in practical work and research, get new knowledge and make learning processes interactive. Carrying out laboratory work. Giving students the opportunity to test and experiment with technical processes gives them a deeper understanding. Research projects. Encourage students to research various technical issues and direct them to scientific work.

In short, teaching technical training is a process of teaching not only theoretical knowledge, but also practical skills. Modern methods, innovative technologies and interactive approaches are important in the development of students' technical knowledge. Such teaching methods provide students with the knowledge necessary for successful work in the technical field and prepare them for production processes.

Technical training is an important field of study to provide students with technical knowledge and skills, to teach them to work in various fields. The modern education system is enriched with digital technologies, which significantly increases the quality of education. The use of digital educational technologies creates the following opportunities for students in the study of technical training subjects:

Use of multimedia resources. Using videos and animations to explain technical processes helps students understand the topic more clearly. For example, animations can be used to show the operation of production processes or technical devices. With the help of 3D technologies, students can better understand complex technical objects, for example, visually showing the operation of mechanical devices or electronic components. Virtual and augmented reality. Virtual Reality (VR). VR technology can be very effective in teaching students technical skills. With this technology, students can practice their skills by participating in real production processes in a virtual environment, ensuring safety.

With AR, students can learn in a way that integrates digital elements with the real world. For example, a manual or tutorial can be displayed on technical equipment using AR. Educational materials and platforms. Electronic textbooks and resources. With the help of digital textbooks and materials, students can be provided with an interactive learning process. This allows students to be provided with constantly updated materials. Educational platforms. Through online platforms such as Moodle, Google Classroom, it is possible to organize discussion groups for students, conduct remote tests, and organize educational processes online.

Simulation and Modeling. Technical simulators. With the help of special programs, students can learn to solve problems by simulating various technical systems. For example, using simulators that allow e-learners to create electrical circuits and test them. Modeling programs. Using programs such as Matlab and AutoCAD, students learn to model complex technical systems and mechanisms.

In conclusion, the use of digital educational technologies in the teaching of technical training makes the process of teaching students' technical knowledge effective, interesting and innovative. These technologies greatly help teachers in modernizing the educational process, as well as provide ample opportunities for students to gain practical experience.

REFERENCES

Kozlova N. Sh. Ta’limdagi raqamli texnologiyalar // Maykop davlat texnologiya universitetining xabarnomasi. 2019. jild. 1/40. 83–90-betlar.

Kozlov R. S., Kozlova N. Sh. Rossiya ta’lim tizimi raqamli transformatsiya davrida // O‘qituvchi millat yaratadi (A.-X. A. Qodirov): IV Xalqaro ilmiy-amaliy konferensiya materiallari to‘plami. 2019. 344–348-betlar.

Uvarov A. Yu. Raqamli texnologiyalar dunyosida ta’lim: raqamli transformatsiya yo‘lida. M .: nashriyot uyi. Davlat universiteti Oliy iqtisodiyot maktabi uyi, 2018. – 168 b.