TECHNOLOGY FOR DEVELOPING THE ABILITY OF ENGINEERING STUDENTS TO OPERATE IN THE DIGITAL MEDIA ENVIRONMENT

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Abstract:*This article discusses the current issues of developing students' ability to effectively operate in a digital media environment in modern engineering education. The study analyzes the theoretical foundations, methodological approaches and practical technologies for developing digital media competence. The article presents innovative methods for developing the ability to operate in a digital media environment and draws conclusions about their effectiveness.*

Keywords: *Digital media, media competence, engineering education, digital technologies, media education, professional training.*

The process of digital transformation of modern society imposes specific requirements on all areas, in particular engineering education. Today, an engineer must have not only traditional professional knowledge and skills, but also the ability to work effectively in a digital media environment. Digital media competence is becoming an integral part of the professional portrait of a modern engineer.

The ability to operate in a digital media environment for engineering students includes the following aspects:Kasbiy kommunikatsiyalarni raqamli platformalarda amalga oshirish

- Present and promote engineering projects in digital format
- Develop and edit technical documents in digital format
- Collaborate with virtual teams
- Effectively use and critically analyze digital resources

The purpose of this article is to develop a scientific and theoretical basis for developing engineering students' ability to operate in a digital media environment and to propose a technology for implementing this process.

The issue of digital media competence has been widely covered in scientific research by foreign and domestic scientists. Scientists such as J.D. Potter, S. Livingstone, K. Tyner have developed the theoretical foundations of media competence. In the field of engineering education, P. Moore, A. Kovalchuk, V. Tikhomirov have studied the processes of digital transformation.

Although the issues of developing digital media competence in the education system of Uzbekistan are still being considered, serious work has been carried out in this area in recent years. In particular, work is being carried out on the introduction of digital

educational resources, the creation of online learning platforms, and the development of virtual laboratories.

The following methods were used as the research methodology:

- Theoretical analysis method - studying the theoretical foundations of the concept of digital media competence
- Systemic approach - viewing the digital media environment as a system
- Structural analysis - separating the components of media competence
- Methodological modeling - creating a technology for operating in the digital media environment

A structural model of digital media competence of engineering students

As a result of the study, the digital media competence of engineering students was presented as a structural model consisting of the following components:

1. Knowledge component:
- Knowledge about the types and characteristics of digital media
- Fundamentals of digital content creation
- Methods of digital presentation of engineering projects
- Fundamentals of digital security

2. Skills and competence component:
- Skills in working with digital tools
- Skills in creating multimedia content
- Skills in online communication and collaboration
- Skills in analyzing and processing digital data

3. Virtue component:
- Responsible behavior in the digital environment
- Adherence to digital ethics and morals
- Active participation as a member of a digital community
- Openness to digital innovations

4. Activity component:
- Implementation of digital projects
- Professional activity on digital platforms
- Application of digital resources in research and production activities

These components, as a single system, form the ability of an engineering student to comprehensively operate in a digital media environment.

Technology for developing the ability to operate in a digital media environment

As a result of the research, the following technology was developed to develop the ability of engineering students to operate in a digital media environment:

1. Stage - Diagnostics and motivation
- Determining the initial level of media competence of students

- Forming an understanding of the importance of working in a digital media environment
- Identifying personal development needs

2. Stage - Theoretical training

- Digital media basics course
- Digital aspects of engineering communications
- Studying digital media tools and platforms

3. Stage - Practical exercises

- Digital presentation of engineering projects
- Practice working with virtual teams
- Preparation of technical documentation using digital tools

4. Stage - Project activities

- Development of digital projects to solve real engineering problems
- Creating a digital portfolio
- Working in online creative laboratories

5. Stage - Monitoring and Evaluation

- Regular assessment of media competence
- Monitoring individual development dynamics
- Analysis of results and improvement of technology.

The following innovative methods are recommended for implementing this technology:

- Case studies - analysis of real engineering situations
- Individual assignments on LMS platforms
- Virtual reality simulations
- Training on using libraries and databases
- Practical exercises in media creative laboratories.

Research results and discussion To carry out the research, a pedagogical experiment was conducted among 2nd-3rd year students of the "Software Engineering" department of Tashkent State Technical University. The experiment was conducted during the 2022 - 2023 academic year.

The developed technology was used in the experimental group (45 students), and traditional teaching methods were used in the control group (42 students). During the experiment, the level of digital media competence of students was assessed according to the following indicators:

- Level of working with digital tools
- Skills in creating multimedia content
- Online communication efficiency
- Ability to analyze digital data
- Level of implementation of digital projects

- The results of the experiment are presented in the table below:

Conclusion and suggestions

The following conclusions and proposals were developed as a result of the research:

1. Developing the ability of engineering students to operate in a digital media environment is an urgent task of modern education.
2. The developed technology allows for a significant increase in the level of media competence of students and it is advisable to include it in the curriculum for engineering students.
3. The introduction of technology for developing digital media competence requires the following conditions:
   - Training teachers as digital media specialists
   - Creation of modern digital infrastructure
   - Development of educational and methodological complexes
   - Introduction of innovative methods to the educational process
4. In the future, it is recommended to conduct research in this area in the following areas:
   - Creating personalized media learning environments based on artificial intelligence
   - Developing a system for assessing digital media competence
   - Improving mechanisms for developing media competence in the system of continuing education of engineering specialists

In conclusion, it can be said that developing the ability of engineering students to operate in a digital media environment is an important factor in their professional training, allowing them to train specialists who meet the requirements of modern production and technology.

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