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METHODOLOGICAL FOUNDATIONS OF TECHNOLOGICAL EDUCATION OF STUDENTS BY METHODS OF CONTENT DESIGN

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Abstract. The article is devoted to the methodological foundations of technological education of students using content design. It considers modern approaches to the formation of the content of the educational process aimed at developing technological literacy and practical skills. The principles and methods of the project approach are analyzed, contributing to the improvement of the quality of education and preparing students for the challenges of the modern technological environment.

Key words: technological education, project-based learning, content design, educational methodology, students.

Introduction. Technological education is an important component of preparing students for professional and social life in the context of rapidly developing technologies. In recent years, the project method has proven its effectiveness in the formation of not only practical skills, but

also in the development of critical and creative thinking [1,3]. The introduction of the project method into the educational process makes it more flexible and adaptable to the changing requirements of the labor market and educational policy. The basis of the project approach is a conscious and purposeful design of content focused on current tasks and problems. Technological education is a systematic process of developing students' knowledge, skills and abilities necessary for understanding and applying modern technologies in various spheres of life. It is aimed at developing creative potential, critical thinking, problem-solving and teamwork skills [2].

Methods of designing the content of technological education. Designing the content of technological education is the process of creating educational programs that take into account modern requirements and the specifics of technological development [4,5]. The main design methods:

• Systems analysis: Allows you to identify the main components of the educational process, their interrelations and determine the learning objectives.

• Modeling: Models of educational systems are created that allow you to predict learning outcomes and make the necessary adjustments.

• Competency-based design: The content of training is built on the basis of key competencies necessary for a successful life and professional activity.

• Didactic design: Development of educational materials and assignments aimed at achieving specific learning objectives [6-8].

The main principles of designing the content of technological education:

• The principle of relevance: The content of training must meet the modern requirements of the labor market and public needs.

• The principle of practical focus: The knowledge and skills acquired in the learning process must be applicable in real life.

• The principle of integration: The content must integrate knowledge from various fields of science and technology.

• Modularity principle: The content of the training should be structured into modules, which allows for flexible adaptation of the educational process to the individual needs of students.

• Activity-based approach principle: The training should be based on the active work of students: project, research, and design [9].

Results. Stages of designing the content of technological education:

1. Needs analysis: Determining the needs of students, society, and the labor market for technological knowledge and skills.

2. Formulating learning objectives: Determining the specific results that should be achieved as a result of training.

3. Selecting content: Selecting topics, sections, and subjects of the educational material that correspond to the learning objectives.

4. Developing curricula and programs: Creating a detailed training plan that includes a sequence of topics, types of student activities, and forms of control.

5. Creating educational materials: Developing textbooks, teaching aids, presentations, videos, and other didactic tools.

6. Organizing the educational process: Selecting methods and forms of training that ensure the achievement of the set goals.

7. Evaluating learning outcomes: Monitoring and evaluating the effectiveness of the educational process [10].

The role of the teacher in the design process

The teacher plays a key role in the process of designing the content of technological education. He/she should:

- Be aware of modern trends in technology development.
- Have mastery of the methods of designing educational programs.
- Create a motivational environment for learning.
- Organize student cooperation.

- Assess learning outcomes and make adjustments to the educational process.

Conclusion. Methods of designing the content of technological education allow creating effective educational programs that meet modern requirements. The use of a systematic approach, modeling, designing by competencies and other methods makes learning more relevant, practice-oriented and interesting for students.Designing the content of technological education based on a project-based approach allows students to develop the necessary practical skills and competencies. The introduction of these methods contributes to the development of innovative thinking, which is especially important in the context of rapid technological progress. Project-based learning provides students with the opportunity to study content in real practical situations, developing their professional qualities and preparing them for new challenges. This direction requires further research and adaptation in accordance with new educational standards and challenges of the time.

References

1. Dewey, J. (1938). *Experience and Education*. New York: Macmillan.

2. Kilpatrick, W. H. (1918). *The Project Method*. Teachers College Record, 19(4), 319-335.

3. Jonassen, D. H. (2000). *Learning to Solve Problems: An Instructional Design Guide*. San Francisco: Pfeiffer.

4. Kolmos, A., Fink, F. K., & Krogh, L. (2004). *The Aalborg PBL Model: Progress, Diversity and Challenges*. Aalborg: Aalborg University Press.

5. Atajonova S.B. Methodology of teaching general educational disciplines with a professional focus in technical universities// Scientific and technical journal machine building STJ AndMI 25.12.2022 No. 5 Issue 2

6. Atajonova S.B. Modernization of training in technical universities, prospects and results in figures// Scientific and technical journal Engineering problems and innovations (EPAI). Vol. 01. | Iss. 01. | 2023

7. Rasulova T.P. (2024) Project-based learning as an innovative approach to developing practical skills and professional competences in students of technical universities// International Journal of Pedagogics,
https://doi.org/10.37547/ijp/Volume04Issue10-24

8. Blumenfeld, P. C., Soloway, E., Marx, R. W., et al. (1991). *Motivating Project-Based Learning: Sustaining the Doing, Supporting the Learning*. Educational Psychologist, 26(3), 369-398.

9. Rasulova T.P. (2023). Mathematical modeling of information technologies and processes, teaching methodology, methodology for creation of
training projects// SPJ “The teacher is also knowledgeable”. Issue 6, volume 3, p 392-396.

10. Rasulova T.P. (2023). The role of the innovative model of educational technologies in the organization of teaching "mathematical modeling of information technologies and processes"//Pedagogs *international research journal,* Volum e-47_ Issue-2, p 48-52.