Kokand University

RAQAMLI TEXNOLOGIYALARNING YANGI O‘ZBEKISTON RIVOJIGA TA’SIRI

Xalqaro ilmiy-amaliy konferensiyasi to'plami

21 IYUN

2023

kokanduni.uz

RAQAMLI TEXNOLOGIYALARNING YANGI O‘ZBEKISTON RIVOJIGA TA’SIRI

ВЛИЯНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ НА РАЗВИТИЕ НОВОГО УЗБЕКИСТАНА

IMPACT OF DIGITAL TECHNOLOGIES ON THE DEVELOPMENT OF NEW UZBEKISTAN

Xalqaro ilmiy-amaliy konferensiyasi maqolalar to'plami

JUNE 21, 2023
KOKAND UNIVERSITY

"O‘zbekiston Respublikasi Oliy ta’lim tizimini 2030 yilgacha rivojlantirish konsepsiyasini tasdiqlash to‘g‘risida" O‘zbekiston Respublika Prezidentining 5847-sonli Farmonida ko‘zda tutilgan vazifalardan biri – ilmiy izlanish yutuklarini amaliyotga joriy etish yo‘li bilan fan sohalarini rivojlantirish, ya’ni xalqaro ilmiy hamjamiyatda e’tirof etilishiga xizmat qilishdir. Shu va boshqa tegishli farmonlarda va qarorlarda belgilangan vazifalarini amalga oshirish maqsadida 2023 yil 21-iyun kuni Qo‘qon universiteti “Raqamli texnologiyalar va matematika” kafedrasi “Raqamli texnologiyalarning Yangi O‘zbekiston rivojiga ta’siri” mavzusidagi xalqaro miqyosida o‘tkaziladigan ilmiy-amaliy konferensiyasi maqolalar to’plamini e‘lon qiladi

Ta'lim sifati yangi O‘zbekiston taraqqiyotini yanada yuksaltirishning muhim omili / Raqamli texnologiyalarning Yangi O‘zbekiston rivojiga ta’siri xalqaro ilmiy-amaliy konferensiyasi to’plami. Kokand university, 2023 yil 21 iyun, - «Innovatsion rivojlanish nashriyot-matbaa uyi» 2023.

TEACHING PHYSICS BASED ON MODERN TECHNOLOGIES

Adashaliyeva FeruzaBonu

Farg’ona politexnika instituti talabasi

feruzabonuadashaliyeva@gmail.com

Annotation: This article describes the teaching of physics and the problems that arise in it. It is clear that we will achieve new results as a result of studying and analyzing the problems. It was suggested that the development of pedagogical technologies should be effective in education and give the expected results.

Keywords: physical laws, laboratory work, diagnostics, technological approach, modeling, virtual laboratory.

Nowadays, physics is a general education subject. It serves as the basis for a number of special disciplines, so it is important for students to know not only the laws of physics and phenomena, but also the ability to apply them in solving practical and experimental problems. However, in particular, technological hands-on activities are not included in the curriculum, so it is very difficult to teach students to use physical knowledge to solve problems using traditional forms of education. Another problem in teaching physics is that the formal completion of laboratory work by students is reduced to the repetition of operations specified by the teacher or described in the instruction, which does not provide the level of preparation required by the educational standards. The use of modern pedagogical technologies will help to solve this and a number of other tasks.

However, due to differences in the goals, objectives and system of teaching secondary school students and university students, there is a need to theoretically substantiate and test in practice the effectiveness of the use of modern educational technologies already established in teaching physics. is born. at a technical university. To do this, you need:

- Substantiate the need and possibilities of using modern educational technologies in teaching physics at the Technical University.
- Coordination of didactic capabilities of modern educational technologies and normative requirements for the organization of the educational process.
- Creation of didactic support of modern educational technologies in teaching physics to students of technical universities.
- To test the effectiveness of the use of modern educational technologies in teaching physics to secondary school students.

Educational technology is a set of basic data and a description of the planned learning outcomes, tools for diagnosing the current state of students, a set of teaching models and criteria for selecting the optimal education model for specific conditions. inclusive system.

Pedagogical technology is a systematic way of creating, applying and defining the whole process of teaching and learning, taking into account the technical and human resources and their interaction aimed at optimizing the forms of education.

Analyzing all of the above definitions, pedagogical technology is based on a specific scientific concept, programming pedagogical interactions in a certain way, creating conditions for the development of participants in the pedagogical process and known, pre-planned can be seen as a sustainable education system that undertakes education.

Pedagogical technology should be characterized by key general qualities: consistency, complexity, integrity, scientific feature, conceptuality, developmental nature, systematic, logical, algorithmic, procedural, manageable, diagnostic, predictable, efficient, optimal, and reproducible.

The technological approach allows:

- accurate prediction of results and management of pedagogical processes;
- scientific analysis and systematization of existing practical experience and its use;
- comprehensive solutions to educational and socio-educational problems;
- providing favorable conditions for personal development;
- reducing the impact of adverse events on humans;
- Optimal use of available resources.

This means that the use of modern educational technologies in teaching students is an important and necessary condition for improving the quality of education. The analysis of model programs and educational standards in various specialties allows students to identify the basic organizational and didactic principles of choosing modern pedagogical technologies for use in teaching physics:

1. The compatibility of the forms of implementation of technology with the forms of organization of the educational process in physics at the university, the main forms of teaching physics to students are lectures, practical and laboratory classes.

2. The content of education corresponds to the specific features of physics as a science, which allows to reveal the cognitive, technical and humanitarian potential of physics.

3. The compatibility of the interaction between the subjects of the educational process with the higher education system, which indicates a high level of independent work of students.

4. Orientation to self-education and self-development, that is, the formation of knowledge, skills, abilities and relevant competencies in the process of the student's own activities and cognitive activities. ensures mastery of methods and techniques.

5. Ensuring an individual development trajectory that takes into account individual and age characteristics, students' level of preparation, specialization, as well as the specifics of studying physics as a general educational discipline.

6. Integrality of learning outcomes, which implies that mastering the content of the subject is not only science-oriented, but also personal development.

In teaching science, it is important to use new methods of delivery to the student, taking into account the relevance of the topics. A student who has studied semiconductor physics should also be able to see it as a model. It is also convenient to create laboratory work virtually and get results. The interest of the student also increases. The 3D rendering of the modeling process is not only eye-catching but also imaginative.

The student will gain a general understanding of the evolving field of electronics and the creation of smart devices through the effective teaching of technology and physics. Modular learning technology can also be used in distance and traditional classes.

REFERENCES:

1. Kirk, D. (2013). Educational value and models-based practice in physical education. Educational Philosophy and Theory, 45(9), 973-986.
2. Qo’Chqorov, H. O., & Yusupov, D. A. (2021). FUNDAMENTAL FANLARNI O’QITISH SAMARADORLIGINI OSHIRISHNING DOLZARB MUAMMOLARI VA YECHIMLARI. Academic research in educational sciences, 2(11), 448-455.
3. Farmonov, U. M., & Xudoyberdiyev, A. I. (2021). TEXNOLOGIK TA’LIM YO‘NALISHLARI TALABALARIGA FIZIKA FANINI O‘QITISH METODIKASI. Academic research in educational sciences, 2(CSPI conference 3), 613-617.
4. Abdusattorova Mohinur Omonjon qizi. (2022). APPLICATION OF DISTANCE LEARNING AS A NECESSARY TOOL. Academicia Globe: Inderscience Research, 3(02), 189–192. https://doi.org/10.17605/OSF.IO/NERU8
5. Abdusattorova Mohinur Omonjon qizi. (2022). Cms And Automated Internet Systems. Eurasian Research Bulletin, 5, 147–150. Retrieved from https://geniusjournals.org/index.php/erb/article/view/706
6. Okhunov, M., & Minamatov, Y. (2021). Application of Innovative Projects in Information Systems. European Journal of Life Safety and Stability (2660-9630), 11, 167-168.