Scholar's Digest- Journal of Multidisciplinary Studies
Volume 02, Issue 05, May, 2023
ISSN (E): 2949-8856
Scholarsdigest.org

ORGANIZING THE TEACHING OF PHYSICS IN HIGH SCHOOLS ON THE BASE OF MODERN INFORMATION TECHNOLOGIES

Soyibnazarov Abbosjon Ikromjonovich
Teacher of the Fergana Branch of the State
University of Physical Education and Sports of Uzbekistan
E-mail: abbosjonsoyibnazarov@gmail.com Mobile: +998973367505

Abstract:
Use of the multimedia manual in educational process develops cognitive activity of students, allows to make the teaching process more accessible and interesting for learners. The article describes the approaches to the development of the modem model in education at school on the example of using interactive forms together with modern teaching aids.

Keywords: the subject of physics, physical, process, the physical concept, innovate educational technology, multimedia, interactive, interactive method of teaching, creativity.

INTRODUCTION

It is necessary to organize innovative activities in the teaching of physics, to create virtual lectures and experimental stands, which are considered the most effective methods and means of information transfer to teachers, and to ensure their use in lessons. This allows you to gain new knowledge and solve various problems. At the same time, he evaluates the level of training of teachers, selects problems according to the educational goal, provides informational and programmatic support in solving them, receives, analyzes and evaluates their answers.

In this principle of innovative technologies, a sequence of devices is created that controls the teachers' cognitive activities. The pedagogue creates initial guidelines for mastering the subject and, in necessary complex cases, provides individual assistance to them and, in cooperation with an expert, creates a program for mastering the subject with the help of a computer. Modern information technologies open up unlimited opportunities for teachers to access non-traditional sources of information, increase the efficiency of independent work, provide completely new opportunities for creativity, creation and strengthening of various professional skills, new forms and methods of teaching using tools for creating conceptual and mathematical models of events and processes. enables implementation.

MAIN PART

Theoretical and practical lesson forms are mainly used in the teaching of physics in general education schools. The role and importance of solving physics problems in practical lessons is significant. In the process of problem solving, along with giving knowledge to students, important tasks such as developing students' creative abilities, strengthening the acquired

theoretical knowledge and forming skills to apply them in practice, and providing students with science-based education are solved.

Based on the above points, we can say that pedagogues should be able to achieve the following main goals in teaching physics:

- to create scientifically and methodically based opportunities for students to determine their future profession and prepare for it during the teaching process;
- correct assessment of students' abilities, identification, formation and development of creative abilities;
- a continuous creative approach to the teaching process, the ability to create new forms and methods and introduce them to education.

In order to achieve the above goals, additional knowledge incorporating the integration of disciplines should be taught in the training of bachelors in higher education who will become pedagogues in the future. Experiments and observations at the school showed that in the process of studying natural phenomena, watching reality animatedly and observing how changes occur in the phenomenon when the parameters of the event are changed, students became very interested in physics.

Creating an educational model helps to clearly imagine the object being studied and to increase interest in this form of teaching among teachers, as well as to master the educational material more deeply.

Educational information technologies allow the pedagogue to apply any sum of them, such as separate types of educational work, instrumental tools adapted to the pedagogue allow him to quickly update the content of educational and control programs in accordance with the emergence of new knowledge and technologies.

Educators receive a variety of information through telecommunication networks, and also have unique opportunities to interact with their colleagues from around the world. It also creates very good conditions for professional problems, joint teaching-methodical and scientific work, educational developments, computer programs, data exchange.

New information technologies of teaching increase the effectiveness of practical and laboratory knowledge in teaching physics, implement the objectivity of teachers' knowledge assessment, increase mastery, increase the speed of accumulation of physical vocabulary, expand their information level, events and processes in the micro and macro world, internal complex technical and biological systems it allows to create an imagination for learning, to introduce training, laboratory work using computer models that replace expensive, unique equipment to the educational process.

Programmatic and methodical provision of informatization of the educational process is divided into the following areas of application of information technologies:

- knowledge control;
- trainer for solving tasks;
- application of information and reference systems on educational materials;
- use of pedagogical programs;
- modeling programs;
- drawing educational reference systems;

- their houses;
- work with text editors;
- educational modeling environment, use of multimedia systems.

Multimedia products are designed to support various forms of educational activities in the educational system with information. They are: lecturing on subjects (using the "Electronic Bulletin Board" to display numbers, drawings and other visual materials related to the subject from the computer); conducting practical training. Multimedia materials are used by undergraduate teachers as a means of acquiring skills and abilities to independently solve logical tasks related to the lesson being studied. In the laboratories, teachers of the general education school use computer modeling tools that allow them to observe the processes and phenomena that are difficult to manifest: the decay of the atomic nucleus, the growth and formation of crystals, astronomical phenomena, constructional developments; control of the knowledge and skills of undergraduate teachers in exams, course and thesis defense; conducting scientific and methodological seminars, conferences and exhibitions aimed at increasing scientific and professional qualifications; use of multimedia in distance education.

Multimedia system: allows you to independently control the speed of learning materials; allows repeating individual cases many times, which strengthens professional skills and abilities; independent, text, and multiplication accompanied by the bachelor teachers develop and enrich their knowledge and intellect, popularize world literature, architecture, sculptural masterpieces, as well as historical values.

The basis of modern information technologies is the following three technical achievements:

- appearance of magnetic tapes, films, magnetic discs;
- the development of means of communication, which ensure the delivery of information to any point of the globe without significant limitations in terms of time and distance, wide coverage of the population with means of communication (such as radio broadcasting, television, data transmission networks, satellite communication, telephone and Internet);
- the possibility of automated development of information using computers according to a given algorithm (sorting, classification, expression in the required form, creation, etc.).

The most important examples of the implementation of modern information technologies are systems such as videotex, teletex, e-mail. Computer technology is currently developing rapidly. First of all, this is characteristic of the technical characteristics update, such as the size of the operating memory (more than 32 GB), the size of external memory of Winchester diskettes (1000 GB), and their speed increases. In addition, laser printers, color monitors with high resolution, and printing plotters have become widespread. The use of video and optical discs allows simultaneous recording of text-graphic information, while at the same time a high-quality image is created during its recovery. Unlike magnetic recording, recording on optical discs does not deteriorate even with any number of resets. Software and mathematical support of computer work is becoming an important direction of the development of high-tech production.

Electronic mail consists of a paperless postal communication service and is essentially a network system for the collection, processing and presentation of document messages and data

transmission. Based on it, information services such as electronic newspapers and magazines were provided to the population.

Teleconferences are an example of the implementation of modern information technologies. The following equipment is used for its transfer: terminals, television cameras, VCRs, computers, graphic displays, large display screens. The advantages of teleconferences include: the ability to quickly organize the discussion of current issues; the possibility of using any pictorial materials (graphs, drawings, texts, etc.) for discussion; the ability to greatly expand the range of experts participating in the discussion of various issues; has the opportunity to use any information in international data banks.

It is known that today's technical tools provide perfect communication at a distance, that is, there is an opportunity to use verbal and non-verbal communication. Distance education is based on the use of modern technical means of computer telecommunications. Distance education allows you to enrich the information base, accelerate the interaction between undergraduate teachers and the institution, and fill the methodological wealth of education. The main sources of distance education organization are: delivery of educational information to undergraduate teachers; interaction with the pedagogue; providing remote team work as needed. Implementation of distance education requires a set of organizational, methodical, information-technical, financial and production activities. For its effective implementation, at the first stage, it is necessary to establish pilot centers of distance education where the entire technology of distance education is used at one or several educational institutions.

CONCLUSION

In the national personnel training program, special importance is given to the issues of forming, strengthening and improving the material, technical and information base of educational institutions based on modern requirements, providing educational processes with textbooks, training manuals, methodological recommendations and modern innovative technologies. Improving the quality of education and using modern information technologies in this regard, training competitive teachers is of particular importance in solving these problems. It is necessary to organize innovative activities in teaching physics, to develop the work of educational laboratories, to provide them with the most modern devices, and to widely use virtual computer technologies in order to provide students with the necessary knowledge and sufficient skills.

REFERENCES

1. Ishmukhamedov R., Abdukodirov A., Pardaev A. Innovative technologies in education (practical recommendations for pedagogues-teachers of educational institutions). Tashkent. Talent, 2008.

2. Majitova Sh. Innovative pedagogic technologies used in training // Public education. Tashkent, 2006.

3. Utyomov V. V. Metodika razvitiya kreativasti uchashchixsya osnovnoy shkoly // Koncept.–2012.–No.1(January).–ART 1202. –URL: http://ekoncept.ru/2012/1202.htm.– Gos. reg. El No FS 77-49965. - ISSN 2304-120X.

4. Bukhvalov V. A. Razvitie uchashchikhsya v protsesse tvorchestva i sotrudnichestva.–M.: Pedagogicheskiy poisk, 2000.–144 p.
5. Babaev V.S. Physics. Nestandartnye zadachi s otvetami i resheniyami.-M.: Eksmo, 2007.-144p.
6. http://www.zanimatika.narod.ru/Nachalka.htm
http://festival.1september.ru/articles/585220/
7. A.I. Soyibnazarov. Teaching Physics Pedagogues To New Pedagogical Technologies In The Preparation Of Bachelors. Horizon: Journal of Humanity and Artificial Intelligence. 2/4 2023. 199-201.