Educator Insights: A Journal of Teaching Theory and Practice
Volume 01, Issue 11, November 2025
brightmindpublishing.com
ISSN (E): 3061-6964

ISSUES OF IMPROVING DISTANCE LEARNING IN PHYSICS

Israilov M.
University of Military Security and
Defense of the Republic of Uzbekistan

Abstract
This article is devoted to distance learning using modular learning technology in teaching physics, which lists the advantages and disadvantages of modular technology, including, first of all, with each student individually. The key role is played by the ability to work independently The tasks given by the teacher allow students to independently complete tasks, creatively approach work, learn how to effectively use computer technology and the Internet, physical processes, the ability to observe on a computer monitor and use virtual experiments and virtual laboratory work when performing laboratory work and other important issues.

Keywords: Distance learning, distance learning technology, modular technology, modular program, didactics, cognitive activity, self-study, individual characteristics, general didactic principles, general didactic criteria, didactic system, learning objectives, didactic materials, problem tasks, distance learning, pedagogical principles, concept, individual approach, educational resources, market elements, integration, information and communication technologies.

Introduction

The introduction of the information system, computer technology, the Internet and modular learning technology into the daily life of human society has created an opportunity. This is commonly referred to as Distance Learning (DL'). Distance learning differs from full-time or part-time learning in that there is no direct communication between the teacher and the student. Communication or computer channels complement the student's or learner's environment. In this case, the system of knowledge necessary for the student is developed on the basis of a special methodology and is reflected in the educational and methodological complexes[1].

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Modular teaching of physics is an effective tool for the teacher's individual approach to each student. Modular teaching of physics leads to an increase in the weight and importance of independent learning, encourages students to work independently, initiative and creativity. In physical education, the modular technology of training is developed separately for each department of the subject. It is based on the basic principles of modular education. At the heart of the improvement of physical education with the help of modular technology is the idea of creating modular programs and training modules that are compatible with existing educational programs, and organizing lessons based on them. In the development and construction of modular programs and training modules, a certain didactic law, principle and rules of modular learning are observed, and the focus is on the student's independent learning[2].

When teaching physics based on modular technology, the teacher is required to perform the following tasks for the proportional development of the student's personality:

- organization of events aimed at encouraging students to study and study physics, acquire knowledge, skills and abilities;
- creation of conditions for the development of independent thinking, memory, creative enthusiasm for physical phenomena and processes, taking into account the personal characteristics of students.

The effectiveness of mastering physics on the basis of modular technology depends not only on the way the educational material is described in it, but also on how skillfully the set of tasks is developed and structured by the physics teacher. The task is the main structural unit of the content of the subject in physics. The didactic system of teaching physics based on modular technology, like other didactic systems, requires the design of the content of physical education on the basis of general didactic principles and criteria, in accordance with the goals of education. There are several ways to develop modular programs in the field of physical education. The content of training modules is formed on the basis of the principles of structuring the content of physical education and should be provided with didactic materials, problem and practical tasks, expressed in a clear, visual form[3].

The application and improvement of modular teaching of physics in educational institutions serves the formation and development of students' skills of independent learning as a student-centered method of teaching. Therefore,

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modular training is a traditional and distance learning of students of secondary specialized educational institutions for independent acquisition of knowledge and skills during the period of professional activity after training, to prepare for distance learning in the higher education system in the future acts as a bridge. between prev.

On the basis of a modular system of teaching physics, the idea of full-fledged education management is based on the idea of increasing the effectiveness of training, guaranteeing the achievement of planned educational results in a given time frame and on time. conditions. The essence of the modular approach to learning is to divide the educational process into specific details and elements according to certain pedagogical principles and form it on the basis of these structural parts, taking into account a certain sequence and sequence.

The system of education based on modular technology has absorbed many of their features under the influence of the dynamics of the development of modern didactic teachings, the effective use of various approaches to the selection of educational content, its reflection and organization of the educational process. Allows. This shows that modular learning can be used in conjunction with various educational technologies and concepts [4].

Considering the process of teaching physics in many educational institutions, the following conclusion was made:

- the method of self-study has not yet been worked out to the required level;
- students do not have enough skills to work with textbooks and various resources;
- They find it difficult to express their thoughts orally and in writing.

Improving the process of physical education based on modular technology accelerates the student's learning, directs actions to gain knowledge, becomes the basis for performing actions such as control and correction of errors. The approach to the process of teaching physics based on modular technology allows you to accurately plan it, record the educational result in advance and shows that in the future it can be used as a promising method of teaching in independent and distance learning.

Given that modular training is also an important factor in improving physical education, this teaching methodology has been qualitatively studied. In physical education, modular learning technology is developed separately for each department of the subject. It is based on the basic principles of modular education.

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This learning technology guarantees the achievement of the desired educational results[5].

Based on the foregoing, it can be said that the possibilities of radically improving the quality of personnel in the educational process by turning the Internet and ICT system into a means of acquiring, storing, transferring new knowledge and making practical decisions are increasingly expanding. . The use of the Internet and ICT opportunities in distance education primarily ensures the quality, sociality, popularity and economic acceptability of education for all. From this we can conclude that distance education has a number of advantages over traditional forms of education. From this it can be seen that there are enough opportunities for the effective implementation of modern distance learning in the higher education system of our country [6].

Distance learning is a process that connects teachers and students located in different geographical regions, and communication is carried out using special technologies. Various methods are used in the implementation of relationships.

Those who live far from an educational institution, those who do not have the conditions to attend and study, those who want to improve their qualifications, people with disabilities and those who do not have the opportunity to directly enroll in a higher education institution for various reasons to study remotely, it is natural that their requirements for education will increase.

The use of traditional methods of distance learning for persons who do not have the opportunity to study in stable conditions, whose capabilities are limited for health reasons, as well as students of retraining and advanced training courses, students of foreign countries creates very favorable conditions for applicants wishing to study in educational institutions, and for personnel wishing to obtain a second specialty. Distance education is a very convenient tool, especially for working adults and those wishing to study in a second specialty [7].

Distance learning can be considered as an education characterized by the following basic conditions: the presence of a teacher and a student, the implementation of the educational process at a certain distance, two-way communication between the teacher and the student, the distance availability of special studies. materials, providing both parties with computers and other technical and communication tools, creating virtual programs in physics and other sciences, even virtual laboratory work.

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In our opinion, important in the formation and development of the ICT system in higher education, including distance learning, are: retraining of highly qualified personnel for the implementation of such goals, training of specialists based on new needs, market formation, the quality of the need for training new personnel, taking into account, training specialists based on the specifics of each discipline, interaction with subjects based on integration, creating a network of necessary or involved in activities mechanisms and joint work with them, creating market elements, changing and financing innovative activities aimed at improving, accelerating the process of turning knowledge into goods and putting them into practice [8].

As mentioned above, selling and buying the necessary knowledge means that it has become a commodity. Because the regular updating of knowledge and its use by the workforce is the key to socio-economic development. It is necessary to make extensive use of innovations in higher and secondary specialized educational institutions specializing in the transfer of knowledge. That is, among them is the application of distance education to school education, the application of new sciences and technologies. The popularization of this process is important for the connection of universities with production and the market[9,10].

Also, the use of ICT in the educational process allows: the development of intellectual and creative abilities of a person, the ability of each member of society to improve their skills and change the field of activity, create conditions for comfortable learning and increase its effectiveness, reduce the cost per student based on the effective use of educational resources, provide higher education through distance learning to those who cannot study in the form of traditional education in higher education institutions to study and so on.

Thus, the use of ICT in the education system offers both economic and social benefits. Therefore, we should not forget that the improvement of theoretical, methodological and other aspects in this regard, based on the requirements of the time, is one of the urgent tasks of today.

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