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FACTORS FOR THE DEVELOPMENT OF COMPETENCIES IN PHYSICS EDUCATION

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Annotation

Intensive work on improving the education of physics, the goals and objectives of teaching physics.

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Physics has a special place in the scientific outlook, logical thinking, professional training and personal development of students of general secondary schools. As one of them, the main focus is on the introduction of a competency-based approach in education. Education based on a competency-based approach is education aimed at developing students' ability to apply the acquired knowledge, skills and abilities in their personal, professional and social activities. In 1996, the Council of Europe organized a Symposium on "Basic Competences for Europe", which identified the first basic competencies for the continuing education system of the EU member states. State educational standards based on the systematic approach used in practice do not fully meet the requirements of socio-spiritual and cultural development of society and the Strategy for Sustainable Development of Uzbekistan until 20304. In order to comprehensively address this issue, develop and implement state educational standards and curricula based on a competency-based approach to general secondary and secondary special, vocational education. should be introduced. The word competence is derived from the Latin words "competo", "competentia", which means to achieve, conform, deserve. The essence of this term is characterized by such concepts as success, efficiency, achievement. Most users are able to access news and other educational materials not only in the traditional way from books, textbooks, newspapers, magazines, but also more quickly and conveniently from the global network. At the same time, the flow of information is growing, there is a need to sort them and select only the necessary information. In addition, a number of scientific studies are being conducted on the automation of many production and other processes, the performance of man-made and robotic work that does not require intellectual capacity or can be dangerous in the process. Many sources on the Internet have published research on the future development of the labor market, and some professions will disappear in the next 15-20 years or demand for them will decrease sharply, and, conversely, the need for certain professions and activities will increase or they are expected to be in demand. Undoubtedly, the implementation of most processes and services in the future through the Internet, information systems and related solutions will require our young people and today's schoolchildren to acquire knowledge and skills for the XXI century. In this regard, a number of countries are implementing solutions for the formation of knowledge and skills that will be needed in the educational process in the near future.

Currently, intensive work is being done around the world to improve the teaching of physics: the goals of teaching physics, the principles of choosing the content of educational materials are being defined, textbooks and other teaching aids are being modernized, effective teaching is being carried out. forms and methods are being developed. This process includes the development of modern science, the interaction between science and technology, the results of the scientific and technological revolution, based on the widespread introduction of new information technologies in all spheres of society. In this regard, the goals of teaching physics at school are changing. Increased acquisition of relevant information requires improving the structure of educational materials. This affects the level of students' mastery of the general principles and laws of physics and their acquisition on the basis of theoretical methods of thinking. In many countries, the goals of teaching physics are almost the same: to form the basis of scientific and technical literacy in the subject; Ensuring the development of creative abilities, the formation of scientific thinking, the development of skills of independent learning through various sources (literature, experiments, etc.). In almost all countries, efforts are being made to change the nature of teachers' activities: from a simple transfer of knowledge to a management of the learning process. The main focus is on changing the content of textbooks that provide students with learning activities (multiplication of experiments, various independent tasks, etc.), forms, methods and techniques of organizing the learning process. Conscious and widespread use of models, the study of scientific research methods, historical and other methodological knowledge are important.

As a structure of the physics course, which is typical for many countries of the world, we can consider the following teaching system: primary school, the first stage of high school, the second stage of high school, the upper stage of high school, secondary school (first, second and third stages of education; each stage consists of three classes), gymnasium (humanities, natural sciences, etc. ; usually 2-3 years of education). 50% of the time is spent on teaching basic subjects (language, literature, mathematics, etc.). The use of integrated courses is widespread, and in the upper grades - special courses are taught more. In primary school, physics and natural sciences are often studied. For example, in Sweden, in the first stage, the elements of physics are considered in the field of local lore, manual labor, in the second stage in the field of natural sciences, in the third stage in a separate course or natural sciences. In the gymnasium, physics is taught at a high enough level for three years in the natural sciences department. Departments of mechanics, electricity, atomic physics and other physics are taught. This means that if the teaching of physics is carried out in an interdisciplinary way to increase the effectiveness of education, the student's worldview and thinking will be broader. In addition, high results can be achieved by encouraging students to think freely and strengthening independent learning.

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