THEORETICAL FOUNDATIONS FOR THE CREATION OF ELECTRONIC INTERACTIVE EDUCATIONAL AND PROGRAMMING IN THE TOPIC "COMPUTER SCIENCE AND INFORMATION TECHNOLOGY"

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ABSTRACT

This methodology contains a methodological basis for creating interactive educational complexes on the subject of "computer science and information technology". The article presents the goals, features of interactive educational complexes and two approaches to educational materials of interactive educational complexes on the topic "computer science and information technology".

Keywords: article, methodical, interactive, educational – methodical complexes, modul.

"INFORMATIKA VA AXBOROT TEXNOLOGIYALARI" FANIDAN ELEKTRON INTERFAOL O'QUV –USLUBIY MAJMUALAR YARATISHNING NAZARIY ASOSLARI

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ANNOTATSIYA

Ushbu uslubiy maqolada «Informatika va axborot texnologiyalari»fani bo'yicha interfaol o'quv – uslubiy majmualar yaratishning metodik asoslari haqida so'z yuritilgan. Maqolada « Informatika va axborot texnologiyalari»fani bo'yicha interfaol o'quv – uslubiy majmualarning maqsadlari, xususiyatlari va o'quv materialini yoritishning ikki yondashuvi yoritib berilgan. Kalit so'zlar: maqola, metodika, interfaol, o'quv – uslubiy majmualar, modul.

ТЕОРЕТИЧЕСКИЕ ОСНОВЫ ДЛЯ СОЗДАНИЯ ЭЛЕКТРОННОГО ИНТЕРАКТИВНОГО ОБРАЗОВАТЕЛЬНОГО И ПРОГРАММИРОВАНИЯ В ТЕМЕ «ИНФОРМАТИКА И ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ»

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АННОТАЦИЯ

Эта методология содержит методологическую основу для создания интерактивных учебных комплексов на предмет «информатики и информационные технологии». В статье представлены цели, особенности интерактивных учебных комплексов и двух подходов к учебным материалам интерактивных учебных комплексов по теме «информатика и информационные технологии».

Ключевые слова: статья, методика, интерактив, учебно – методический комплекс, модуль.

The rapid development of information and communication technologies in the world, the introduction of these technologies in the education system requires increasing the effectiveness of education.

In vocational schools by encouraging the participation of information technology organizations in the educational process in our country Improving the methods of teaching the subject of "Computer Science and Information Technology", at the same time, training, support and promotion of talented IT professionals and creating opportunities for their development to prevent the outflow of talented people from the country is one of the important tasks.

Today, the tasks set forth in the Law on Education, which was created to radically reform the education system, are being addressed at a rapid pace. One of the main tasks in this area is the organization of theoretical and practical training on the basis of new pedagogical and information technologies, which is the most important part of the educational process. including the achievement of positive results in the acquisition of the student's knowledge base in the sciences.

In modern education based on interactive teaching methods in the subject of "Computer Science and Information Technology" there is a great need to determine the interest, passion, desire, level of readiness and ability of each student to study, the individual features are evident only in parts of the learning process, in its episodes, and it has been found that the use of these features should also be done in those parts. In the methodology of creating interactive teaching materials on the subject of "Computer Science and Information Technology" should pay attention to the following:

- Person centered approach;
- Individual and differential approach to students in education.

These approaches reflect the student's level of preparation, interest, passion, and ability in Computer Science and Information Technology. In the concept of differential approach, the interrelationships between teacher and student activities are intertwined. Now that the student is in the team, the focus is on his or her place and characteristics. In the classroom, there are methods of teaching with the class, as well as teaching with a focus on individual characteristics. So it is clear that differentiation is necessary for individualization. It defines the relationship between student and teacher. The boundaries of differentiation and individualization are not clearly defined. At the heart of individualization education is a specially programmed teaching method. Therefore, in the methodology of creating interactive teaching aids on "Informatics" differential education means the universality and effectiveness

of education, individualization means the universality and effectiveness of educational material, that is, everyone is reflected in the student's knowledge.

In order to take an individual and differential approach to the process of creating interactive teaching materials in the field of "Computer Science and Information Technology", it is necessary to develop work plans and theoretical material, and adapt the educational process to this approach.

In the methodology of creating interactive teaching materials on the subject of "Computer Science and Information Technology" it would be expedient to rely on two approaches to the coverage of educational material, that is, to divide the educational material into as small parts as possible. varnishes, parts, points), to give the training material in large blocks (in the form of modules). Both approaches have advantages and disadvantages. The study of the material in small pieces (portions, steps) is typical of the programmed learning method of education. In this case, the learning material is easily assimilated by the student. Because the study material is divided into small sections up to one task. The material is easy to remember. The principles of individual approach to the student apply. In the second case, that is, in the study of the material in large blocks, that is, in the enlarged study, the concept is related to other concepts, and conditions are created for the dynamics of development of this concept. Because the concept is studied in relation to the basic phrase (basic concepts, basic concepts). The student's knowledge is deepened and systematized. The study of the material in small pieces does not deepen the knowledge and the knowledge is quickly forgotten. Therefore, the effectiveness of the second approach to teaching material is well known. In the second approach, the concept of module is of particular importance and is related to the teaching of learning material in blocks or modules. So let's give some definitions that explain the concept of module.

A module is a unit of study material based on certain principles, aimed at studying the fundamental concept of science. An element of a module is a component of a module that determines the content of the learning information in the module. A module is a group of specific events, laws, sections, major topics, or interrelated concepts. A module is a logically complete unit of study material designed to explore one or more fundamental concepts in a subject. A module is sometimes understood as a section or block. The micromodule is understood to be the closest interdependent group of disciplines in the curriculum. Therefore, modularization of learning materials allows for differentiated and individual work with students. Modular learning is a node that consists of interconnected elements that can function. The main task of modular training is a complete block of information. Modular learning allows for differentiated learning through full, short, or in-depth categorization of curricula. Interdisciplinary connections are emphasized in the teaching of the module.

The application of key concepts and key phrases in the material studied, the volume of presentation, interdisciplinary connections and problems are given in accordance with educational standards. Modular teaching requires the creation of a set of teaching methods for students. Components of the e-learning package: lecture course of theoretical material; a set of methodological recommendations for practical work; a set of questions to control knowledge; problem, exercises, seminars, a set of problem questions and methodological recommendations for their implementation. The objectives of the e-learning package are: to help the student to visualize and understand the whole picture of the studied material; facilitate learning;

individualization of education; improving control and self-control. The tasks of the e-learning complex allow to use innovative approaches in education. EOUM provides an opportunity to build students 'professional knowledge and skills through steps such as creating cognitive activities and motivations and organizing students' independent activities that include elements of fundamental knowledge and self-control. The following algorithm can be a key indicator in the creation of interactive e-learning complexes on the subject of "Computer Science and Information Technology":
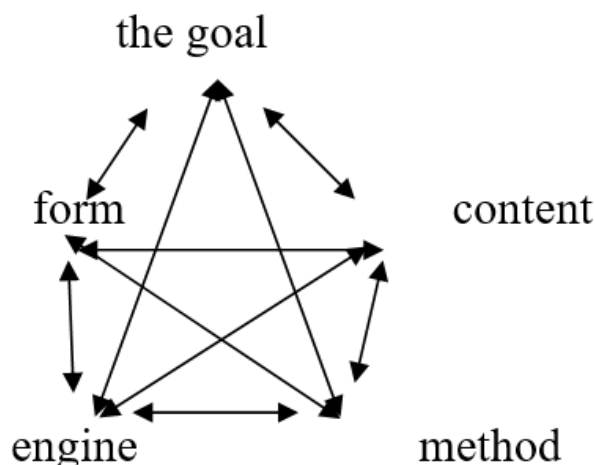
One of the urgent tasks is to create interactive e-learning and methodological complexes on the subject of "Computer Science" in a variety of shapes and forms, with highly prepared graphics, focused on a specific goal. The created e-learning is in a methodical complex It is important to create the elements of the science of "Computer Science and Information Technology" from simple to complex, paying attention to the sequence of elements. The creation and use of e-learning materials in accordance with the curriculum of schools and vocational schools will have a positive impact on the effectiveness of students' learning.

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