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MAKTAB INFORMATIKA DARSLIGIDAGI DASTURLASH ASOSLARINI O‘QITISH METODIKASINING NAZARIY ASOSLARI

Annotatsiya

Bugungi axborotlashgan jamiyatda uzluksiz talimning umumiy oo‘rta talim maktablaridainformatika fanining dasturlash asoslari kursini o‘qitishni yangi bosqichga olib chiqish talim sohasidagi dolzarb muammo hisoblanadi.Ushbu maqolada umumiy o‘rta talim maktablari o‘quvchilarini maktab informatika darsligidagi dasturlash asoslarini o‘qitish metodikasining nazariy asoslarini o‘rgatish, o‘qitishning klassik talimdan keyingi postnoklassik muhit talablariga mos darajaga olib chiqish muammolari ko‘rib o‘tiladi.Shuningdek, zamonaviy informatika va axborot texnologiyalari darsliklari qanday bo‘lishi haqida nazariy bilimlar berilgan.

Kalit so‘zlar: Kompyuter, axborot, algoritm, model, dizayn, dastur, darslik, sivilizatsiya, faoliyat.

ТЕОРЕТИЧЕСКИЕ ОСНОВЫ МЕТОДИКИ ПРЕПОДАВАНИЯ ОСНОВАМ ПРОГРАММИРОВАНИЯ В ШКОЛЬНОМ ИТ-КЛАССЕ

Аннотация

В современном информационном обществе вывод преподавания основ программирования информатики на новый уровень в общеобразовательных школах непрерывного образования является актуальной проблемой в сфере образования. преподавание основ программирования по школьному учебнику информатики в соответствии с требованиями постнеклассической среды после классического образования.Рассмотрены проблемы доведения до уровня.Также даются теоретические знания о том, что такое современные учебники по информатике и информационным технологиям. должно быть.

Ключевые слова: Компьютер, информация, алгоритм, модель, конструкция, программа, учебник, цивилизация, деятельность.

THEORETICAL BASIS OF THE METHODOLOGY OF TEACHING FUNDAMENTALS OF PROGRAMMING IN THE SCHOOL IT CLASSROOM

Annotation

In the modern information society, bringing the teaching of the basics of computer science programming to a new level in secondary schools of continuing education is an urgent problem in the field of education. teaching the basics of programming using a school textbook on computer science in accordance with the requirements of the post-classical environment after classical education. The problems of bringing it to the level are considered. Theoretical knowledge is also given about what modern textbooks on computer science and information technology are. there should be.

Key words: Computer, information, algorithm, model, design, program, textbook, civilization, activity.

Statement of the problem. Information technology is getting more and more into human life every day. Today, even the most ancient professions require computer programs and various information technology technologies. In this regard, the development of programming languages in computer science textbooks was introduced in schools, because children learn much easier and faster than adults. Besides, almost all modern schoolchildren have access to a computer at home. have, they are happy to improve their knowledge after school. In the era of rapid information updating, the issue of quality of education, the latest innovations of education, enrichment with technical tools and technologies, integration of education with modern development is of great importance in every higher education institution. That's why today technical higher education institutions are making high demands on the quality of training of personnel who have the necessary knowledge in the field of their professional activity and can use it collectively. These requirements, in turn, require the development of the introduction of electronic learning tools in the educational process of future engineers in the process of integration of our country into the world economic system, and the process of our national personnel entering the world labor market.

The decision of the President of the Republic of Uzbekistan dated October 6, 2020 No. PD-4851 "On measures to further improve the education system in the field of information technologies, develop scientific research and integrate them with the IT industry" stipulates the following: "Improving the system of training personnel in the field of information technologies" Digital Uzbekistan — 2030" is one of the important conditions for the successful implementation of the strategy, the development of digital technologies and ensuring their widespread introduction into the daily life of the population.

Measures taken to improve the efficiency of the system of professional training and retraining in the field of information technologies create a solid foundation for providing state bodies and network organizations with qualified IT specialists.

At the current stage, the technologicalization of intellectual activity is being carried out. Information technologies based on computer technologies are able to

implement intelligent procedures: computer-aided design, computer modeling, financial and economic activities, multilingual translation, various types of diagnostics, educational systems, data search, sorting, etc. This is the fourth stage, which is related to the study and production of technical tools, methods, and technologies that ensure the growth of new knowledge. Many new directions of theory and practice have appeared, as well as human activities related to the processes of information change.

The educational and developmental goal of teaching programming languages in the computer science textbook at school is to provide each student with the initial fundamental knowledge, including ideas about the basics of computer science, including the ideas about the processes of changing, transferring and using information, and on this basis, to teach students the importance of information processes in the formation of a modern scientific picture of the world, as well as modern determines the role of information technology and computing in the development of technologies.

Studying the basics of programming course in the computer science textbook at school is designed to equip students with the basic skills necessary for continuous and conscious mastering of this knowledge, as well as the basics of other subjects studied at school. intended to have a significant impact on the formation of personality traits, such as the development of thinking and creative abilities. The practical purpose of the programming basics course in the textbook is to contribute to the intellectual and logical (logical) preparation of students, that is, to develop them with knowledge, skills and abilities that will ensure preparation for work after graduation.

This means that the computer science and information technology course at school should not only introduce the basic concepts of computer science, which certainly develop the mind and enrich the inner world of the child, but also be practically oriented - teaching the student to work with a computer and use new information technology tools. Vocational orientation For computer science courses should provide students with information about the professions directly related to computers and computer science, as well as the various applications of subjects studied in school using computers.

In addition to the production side of the issue, the practical goals of teaching the basics of programming in informatics also include the "everyday" aspect - preparing young people for the rational use of computer technologies and other information and communication technologies in everyday life.

The educational goal of the school computer science programming fundamentals course is primarily provided by the strong influence of the worldview of students, which has an awareness of the possibilities and role of computing technologies and information technology tools in the development of society and civilization. The contribution of the school computer computer science programming fundamentals course to the scientific worldview of schoolchildren is It is determined by the formation of the idea of \u200b\u200binformation, which is one of the three main concepts: the world of matter, energy and information, which is the basis of the modern scientific structure. In addition, when learning the programming fundamentals course at a qualitatively new level, a culture of intellectual work is formed and the ability to plan one’s work, to do it rationally, to implement it important universal features such as critical connection with the real process are formed.

Studying the fundamentals of programming in computer science, in particular, mathematical models, algorithms and programming, their implementation on a computer, requires mental and volitional efforts from students, concentration, consistency and advanced imagination, which should contribute to the development of such valuable personality traits as determination. and purposefulness, creative activity and independence, responsibility and hard work, discipline and critical thinking, the ability to argue with one’s views and beliefs. The subject of the school's computer science programming basics course, like no other, sets special requirements for clarity and conciseness of thinking and action, because logical thinking, modeling accuracy of programming is an integral part of working with a computer.

The scope of students' interest in the course of programming fundamentals is primarily the structure and general characteristics of information, as well as issues related to the processes of searching, collecting, storing, changing, transmitting and using information in various areas of human activity. Without modeling and algorithms, it is impossible to create programs with excellent capabilities. therefore, programming languages are the main core and material base of computers, modern information and communication technologies. The school's computer science programming basics course cannot include all the diverse information that makes up the content of the actively developing science of computer science and information technology. At the same time, general education informatics and information technologies that perform their functions should reflect the most important, basic concepts and information that reveal the essence of science and equip students with the knowledge and skills necessary to learn the basics of other sciences. The school is tasked with preparing young people for future practical activities and life in a modern information society.

Experimental results. The educational and developmental goal of teaching the computer science programming fundamentals course at school is to provide each student with the initial fundamental knowledge, including ideas about the fundamentals of programming, including the ideas about the processes of learning, changing, processing and using information, and on this basis, to give students an initial understanding of modern programming languages of the world. the importance of programming languages in the formation of knowledge, as well as the role of information technology and computing in the development of modern technologies. The study of the section on the basics of programming in the school textbook is also intended to equip students with the basic skills and abilities necessary for the continuous and conscious acquisition of this knowledge, as well as the basics of other subjects studied at school. Informatics assimilation of knowledge in the field, as well as the acquisition of relevant skills and qualifications, is intended to have a significant impact on the formation of personality traits such as the general mental development of students, the development of their thinking and creative abilities.

The practical purpose of the programming fundamentals course in school textbooks is to contribute to students' readiness to learn programming languages and create programs, that is, to equip them with knowledge, skills and abilities that will prepare them for their post-school activities. must get acquainted with the basic concepts, they certainly develop logical ability and enrich the student's thinking, but are also practically oriented - teaching the student to work independently on a computer and use new information technology tools. occupations, and should also provide information on the various applications of computer-based subjects taught in educational institutions.

The educational purpose of the school informatics course is provided, first of all, by the strong influence of the worldview of students, which has an awareness of the possibilities and role of computing technologies and information technology tools in the development of society and civilization. The contribution of the school informatics course to the scientific worldview of schoolchildren is

determined by the formation of the idea of information, which is one of the three main concepts of science: matter, energy and information, which are the basis of the modern scientific structure, pictures of the world. In addition, when learning computer science at a qualitatively new level, intellectual work culture is formed and important universal features such as planning one’s work, doing it rationally, and critically connecting with the real process of its implementation are formed.

Summary. In short, modern electronic educational tools are new didactics, such as teaching events and processes in the micro and macro world, complex devices and biological systems based on the use of computer graphics and modeling, presenting physical, chemical and biological processes that occur at a very high or very low speed in a convenient time scale. helps to solve problems. The organization of educational activities in such a way that students have to count with a set of everyday subjects and a set of tasks given for them causes many problems. In this case, students cannot fully focus on any subject. Studying the basics of programming in computer science, in particular, creating algorithms and programs, implementing them on a computer, requires mental and volitional efforts from students, concentration, consistency and developed imagination. should contribute to the development of such valuable personality traits.

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