INNOVATIONS OF COMPUTER SCIENCE IN THE HIGH EDUCATIONAL SYSTEM

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***Abstract**: In this work we consider the problem of computer science teaching in high school system. Management activity is one of the components of the didactic process: when modeling lessons and extracurricular activities, when designing a lesson, when designing a lesson, when designing technological maps, when analyzing a completed educational process, control and evaluation tools (testing, computer test, self-assessment, etc.) is reflected in the process of diagnosing the results of the course.*

***Key words:** interconnection, continuity, lesson, physics, innovation*

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Oliy ta'lim tizimida informatika fanidan innovatsiyalar

***Annotatsiya:** Ushbu ishda biz oily ta'lim tizimida informatika o'qitish muammosini ko'rib chiqik. Innovatsiya faoliyati didaktik jarayonning tarkibiy qismlaridan biridir: darslar va sinfdan tashqari ishlarni modellashtirishda, darsni loyihalashda, texnologik xaritalarni loyihalashda, tugallangan o'quv jarayonini, nazorat va baholash vositalarini (test, kompyuter testi) tahlil qilishda. , o'z-o'zini baholash va boshqalar) kurs natijalarini diagnostika qilish jarayonida o'z aksini topadi.*

***Tayanch so'zlar:** uzluksizlik, dars, fizika, matematika, laboratoriya, innovatsiya,*

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Инновации компьютерных наук в системе высшего образования

***Аннотация:** В данной работе рассматривается проблема преподавания информатики в системе высшей школы. Инновационная деятельность является одним из компонентов дидактического процесса: при моделировании уроков и внеурочной деятельности, при проектировании урока, при проектировании урока, при разработке технологических карт, при анализе завершенного учебного процесса контрольно-оценочные средства (тестирование, компьютерный тест , самооценка и др.) находит свое отражение в процессе диагностики результатов курса.*

***Ключевые слова:** диагностика, непрерывность, урок, физика, инновация.*

Introduction

It is known that at present the specific objectives of the course are divided into three types, which *include educational, pedagogical and developmental* goals [1]. The purpose of education performs an innovative methodological function if:

- ✓ there are innovations in goal setting and its achievement is as clear and understandable to the teacher as to the student and parent (clear and understandable setting);

✓ appropriate use of a sufficient number of supporting words in goal setting and design. For example, "... be able to do", "... learn", "... apply", ".. have innovative knowledge", "... be able to express innovative features" use of structures, concepts to be mastered as the basis of the goal, actions to be performed , and connections and statements between them;

✓ if goal setting is a requirement of state educational standards. If the teacher's methodological skills are based on the requirements of state educational standards, the goal is clear, clearly formulated, in the process of achieving the goal, the student reaches a new level of innovation. In the traditional methodology, both methodologists and teachers are more likely to focus on the amount of material, and not on a clear setting and achievement of a goal, while in modern education, the emphasis is on setting a goal and using innovations to achieve it, indicates a need;

✓ when setting a goal, pay attention to the fact that it is diagnosed. Diagnostics (assessment) provides a mechanism for successfully achieving educational goals. Both the goal set in the educational process and the expected result are considered as an integral process of education, upbringing and development of the personality, consisting of educational, educational, developing parts.

✓ if there is a strict sequence in goal setting.

Innovative teaching methods are used in mastering the content of education, depending on the level of knowledge of students, their ability to master, the source of education, didactic tasks. The main task of the education system today is to help students become a strong state that loves our country, relying on its knowledge and talent and independently acquiring knowledge using modern ICT, we are talking about raising a healthy, comprehensively developed and healthy person.

Continuity and continuity of education is one of the main principles of state policy in the field of education in Uzbekistan. Also computer science continuity and continuity of training is also based on this principle. In our country, the types of education in the field of informatics are continuous, including preschool education, general secondary education, secondary specialized, vocational education, higher education, postgraduate education, advanced training and retraining of personnel and out-of-school education. .

As we know that the process of continuous education will increase the interest of students in the profession, form the scope of innovations aimed at ensuring the continuity and succession of informatics on the example of preparing a future teacher of informatics [2]. *Preschool education* are a variety of game programs that teach children of this age the letters of the alphabet, colors, mathematical figures,

drawing various pictures, developing parts of thinking with the help of special game programs, teaching exercises, etc. It uses educational programs, pedagogical software and simulators .

In order to increase the student's interest in becoming a professional *in the school process:*

- the computer science teacher to organize daily lessons using interesting, innovative pedagogical and information technologies, to convey the secrets of science, to instill in the heart of the student clear examples of how computer science today enters into all spheres of society;
- a teacher of natural sciences should explain the inseparability of computer science on the basis of a meta-subject approach to specific sciences, especially physical and mathematical, chemistry, music, foreign languages and other disciplines, deepen knowledge of computer science in the classroom and in extracurricular activities;
- organization of computer science lessons using pedagogical and information technologies, interactive methods to increase students' motivation, independent thinking, the ability to create small programs, see the results of computer tasks, make independent decisions, create achievements of creative activity, etc.
- school education is mainly focused on the study of natural sciences, while the age of students is in the initial period of choosing a profession. It is during this period that it becomes difficult for students to adequately understand the profession they are interested in or how important the profession will be in the future. Therefore, an informatics teacher should influence the student with different motivations, taking into account the interests of the student, the level of knowledge of the subject. For example, “You will make a very good computer science teacher”, “You can be a demanding teacher”, “You have very good teaching skills”, etc.
- students of secondary specialized, vocational education will be much older than schoolchildren in age, and the profession will think and understand more widely than people of school age about its implementation. However, even at this age, education continues due to age.
- in colleges of education, students are more likely to be involved in teaching, and those who study at such colleges are more likely to choose a teaching career than students in other specialties. Even in professional colleges (academic lyceums), computer science teachers should pay attention to the fact that their students become computer science teachers. Along with the impact of schooling during this period, factors that positively influence the growth of students' interest in learning are:

- a computer science teacher who loves his profession and knows how to convey the secrets of science in an accessible, interesting, pedagogical and information technology;
- to instill in students the unique role of computer science and information technology in society so that professionals can have their own jobs and positions in the future;
- be able to explain to junior specialists pedagogical activity, its positive aspects in educational and extracurricular activities, etc.
- based on the interests of the student during the school period, during the professional college (academic lyceum), the knowledge gained, apply for training in the direction of training a teacher of computer science of higher education and become a student. Now their interest in obtaining specialization is realized through the expansion of a conscious, thoughtful, worldview.

Interest in teaching computer science in higher education is the basis for the formation of this activity in the performer:

the transfer of basic knowledge in schools, vocational colleges (academic lyceums) to the development of advanced knowledge leads to the understanding that the student can expand the acquired knowledge;

Explanation of the theory and practice in the specialty, practical exercises, attention to the performance of laboratory work, develops in students such features as independence of decision-making, the ability to express their own opinion, creativity;

Knowledge of "Methods of teaching computer science", "Technology and design of teaching computer science", "General Pedagogy", "General Psychology" and other specialties helps students to form managerial activities and understand the requirements for a modern teacher.

The implementation of "Pedagogical practice" in the 3rd year of the university, "Undergraduate practice" in the 4th year will form the managerial skills of the future computer science teacher, the problems of organizing and organizing pedagogical activity and will become real masters of their craft. *Professional activity* teacher of informatics applies the acquired knowledge directly in practice. During this period, the teacher

- ♦ uses innovative educational technologies in the organization of educational, independent educational process, spiritual and educational, extracurricular activities;
- ♦ develops and facilitates the use of electronic learning tools, learning process control tools.
- ♦ effectively uses innovative pedagogical and information technologies, methods and teaching aids in its activities;

♦ make independent decisions in pedagogical activity, know the modern methods and means of education entering education, be able to organize their activities, design their professional activities.

In the process of advanced training , a computer science teacher gives special courses on informatization and education management, and also masters innovative pedagogical and information and communication technologies, new software tools, creative activity in their use, creativity, studies the development of topics in the field of science on the use of innovative pedagogical technologies and interactive methods, as well as the wide promotion of their innovative activities.

When preparing a computer science teacher, the main attention should be directed to the formation of managerial activities.

Conclusion

Innovation activity is one of the components of the didactic process: when modeling lessons and extracurricular activities, when designing a lesson, when designing a lesson, when designing technological maps, when analyzing a completed educational process. , control and evaluation tools (testing, computer test, self-assessment, etc.) is reflected in the process of diagnosing the results of the course [3].

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