



METHODS OF FORMATION OF STUDENTS 'PROGRAMMING COMPETENCES

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Abstract. *This article provides suggestions and recommendations on how to shape the programming competencies of general secondary school students.*

Key words: *programming, competence, logical, creative, information-educational environment. Today in the system of continuing education there is a need to increase the creative ability of students to program, to introduce a competent approach to teaching in the formation of logical and creative thinking [1, 2].*

On the concepts of competence, competence, competent approach in our country and the Commonwealth of Independent States, including AA Abdukadirov, NN Narzieva, N.Sh. Turdiev, Yu.M. Asadov, S.N. Akbarova, D.Sh. , Such scientists as I.A. Zimnya, A.V. Khutorsky have expressed their views. According to them, due to the growing difficulties in our modern life, people need to be prepared for different situations. However, competent education is designed to solve problems in situations unfamiliar to people. It is also the acquisition by the student of integrative knowledge and practical actions in an independent direction. Today, the educational process in general secondary schools cannot be imagined without a competent approach. At the same time, the transition from the paradigms of knowledge, skills and abilities in education to the paradigm of competence is being defined [3]. Thus, knowledge, skills and competencies are considered in the competency approach as its derivatives, that is, they are used in teaching the subject of "Computer Science and Information Technology", in particular, programming technologies. The competency-based approach focuses on personality development, and applying it to programming practice helps students program programming algorithms and logical thinking and apply their knowledge effectively in life.

A key component of a competency-based approach in programming practice is to improve the methodology of teaching school students to program different examples and problems in independent learning activities. Based on this approach, it teaches the younger generation to think critically and logically, to make independent decisions, to overcome various problems encountered in life. In this regard, according to N.Sh.Turdiev, Yu.M.Asadov, S.N.Akbarova, D.Sh.Temirov, education based on a competency-based approach requires not the separate formation of knowledge, skills and abilities in students, but their comprehensive acquisition [3].

Therefore, in general secondary schools in the discipline of "Computer Science and Information Technology" to provide students with knowledge about information and communication technologies and their application in practice, the ability to correctly perform the basic steps of computer problem solving technologies, algorithmic structures, algorithms and programming to teach computer software and their capabilities to be able to distinguish and practice, to develop students' minds, to expand their scientific outlook, to form the ability to think logically, by teaching a culture of the use of information and communication technologies, it aims to develop in them the adherence to universal values and the formation of the basic competencies necessary for their continuation in the later stages of education. These competencies are formed in students during the



study of the subject "Informatics and Information Technology" in secondary schools. Competent approach to teaching the subject of "Computer Science and Information Technology", in particular, "Algorithms and Programming" requires an increase in the development of students' logical thinking. At the same time, the position of the teacher changes. It does not become a source of "objective knowledge" that should be given to the student along with the textbook. Its main task should be to develop in students such skills as learning to acquire knowledge independently, to take initiative, to make decisions, to feel responsible for their own actions. In this regard, research shows that students can develop basic competencies by completing competency-oriented tasks in the "Computer Science and Information Technology" classes. In performing such tasks, students work as a team and engage in mutual communication, search for the necessary information, and extract the necessary from them. This process demonstrates students' self-development, social activism, and ICT literacy. In our opinion, in the formation of students' programming competencies, attention should be paid to: ensuring the continuity and logical sequence of video lessons on teaching programming; use of interactive educational technologies in teaching programming; creating an information and educational environment for programming languages in the global network; improving the online system for assessing and monitoring students' knowledge. In short, the use of information-educational environments and interactive educational technologies in the formation of programming competencies of general secondary school students is considered expedient.

In summary, the use of information-educational environments and interactive learning technologies in the formation of programming competencies of general secondary school students is considered appropriate.

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