ORGANIZATION OF TRAINING IN INFORMATICS

Abstract: This article discusses the organization of teaching in computer science.

Key words: informatics, teaching, technology, pedagogical technologies, computer technologies

Among the main tasks of modern education is the adaptation of the student to life, instilling in him the skills of self-education, the creative use of the knowledge gained. Domestic teachers are looking for ways to reform the educational process. In pedagogy, pedagogical technologies or teaching technologies are gaining increasing importance (in contrast to the traditionally distinguished pedagogical, methodological and didactic systems). The term "pedagogical technology" appeared abroad at the beginning of the 60s. last century. Since then, the journals "Pedagogical Technology" (USA, Japan), "Pedagogical Technology and the Learning Process" (England) have been published in different countries; The concept of "teaching technology" in our country appeared in the late 60s, and in the 70s it won a large number of supporters. Nowadays it has become a part of the pedagogical lexicon. However, there are big discrepancies in its understanding and use.
"Pedagogical technology is an organized, purposeful, deliberate pedagogical influence and impact on the educational process" (BT Likhachev).

"Pedagogical technology is a meaningful technique for implementing the educational process" (VP Bespalko).

"Pedagogical technology is a description of the process of achieving the planned learning outcomes" (IP Volkov).

"Pedagogical technology is a well-thought-out model of joint pedagogical activity in the design, organization and conduct of the educational process with unconditional provision of comfortable conditions for students and teachers" (VM Monakhov).

"Pedagogical technology is a systematic method of creating, applying and defining the entire process of teaching and assimilation of knowledge, taking into account technical and human resources and their interaction, which aims to optimize the forms of education" (UNESCO).

“Pedagogical technology means a systemic totality and procedure for the functioning of all personal, instrumental and methodological means used to achieve pedagogical goals” (MV Klarin).

However, in the literature there are also such phrases as “the method of introducing the concept of an array”, “the method of teaching programming”, “the method of studying information technologies”, etc. It is obvious that in them the concept of "technique" has a completely different meaning, close to the concepts of "algorithm", "method", "technology". As noted by I.N. Falin, in pedagogical practice, there is the use of label terms that are fixed for some technologies (the collective way of teaching, the Shatalov method, Waldorf pedagogy, etc.), which are not entirely correct from the point of view of science. However, it is not always possible to avoid terminological inaccuracies that complicate understanding. This raises the problem of separating the concepts of "methodology" and "technology".
As noted by A.V. Khutorskoy, “they distinguish between the theory of teaching 'everyone to everything' (general didactics) and the theory of teaching individual academic subjects or in certain types of educational institutions (private didactics) ... Private didactics ... consider teaching issues in relation to the relevant academic subjects, and at different levels - from children's kindergarten to secondary and high school ... Private didactics are also called teaching methods ... Their goal is to explore the patterns, ways and means of teaching, upbringing and development of students in the process of studying the corresponding academic discipline or group of disciplines ”.

G.K. Selevko identifies three hierarchical levels of the concept of pedagogical technology:

- general pedagogical or general didactic level, characterizing the integral educational process (in a region, educational institution, at the stage of education), synonym
  - "pedagogical system";
- a particular method or subject level, which characterizes the educational process within the framework of one subject, class, teacher, etc., a synonym is “private methodology”;
  - local or modular level, that is, the technology of individual elements of the educational process (the formation of concepts, the organization of control, the assimilation of new knowledge, etc.).

Thus, let us take the following starting position: Theory and methodology of teaching computer science (methodology of teaching computer science) is a pedagogical science, the object of which is teaching computer science at any age level and with any organizational and methodological forms of training. As V.I. Zagvyazinsky, the problem of distinguishing between technology and methodology is quite controversial: “some scientists consider technology a form of implementation of a methodology, others believe that the concept of technology is broader than a methodology”. We proceed from the fact that
certain methods and technologies developed and used in teaching computer science are the subject of pedagogical science research and the object of studying the discipline "Theory and methodology of teaching computer science" ("Methods of teaching computer science").

Speaking about the methodological system of teaching computer science, we considered it as a set of five components: goals, content, methods, organizational forms and teaching aids, which “act as the subject of the teacher's activity, organizing educational or educational process ... ". However, both the teacher and the trainees actually remain outside the system, which causes justified criticism of many researchers. It is noted that “any educational concepts and systems require a certain system of actions for their implementation. If this system is sufficiently variable and flexible, it is most often called methodical, but if it is set in a more or less rigid algorithmic sequence with the expectation of obtaining a guaranteed result, it is called technology "

The word "technology" itself comes from the Greek techne - art, craftsmanship and logos - science, law. Hence, literally "technology" is the science of craftsmanship. The main characteristic features of any technology: is a procedural category; can be represented as a set of methods for changing the state of an object; aims to design and use efficient and cost-effective processes. Thus, technology can be distinguished from methodology by the presence of such characteristics as instrumentality, that is, the presence of a rigidly defined system of prescriptions that are guaranteed to lead to the goal; reproducibility of technology; measurability and guarantee of the result. A similar interpretation of the technological approach to teaching is presented in the works of M.E. Bershadsky, I.P. Volkova, V.V. Guzeeva, M.V. Klarina, V.Yu. Pityukova, V.P. Tikhomirova, P.M. Erdniev and others. Analysis of the work of domestic and foreign authors (B.P. Bespalko, B.S.Bloom, M.V. Klarin, I. Marev, G.K.Selevko, etc.) on the problems of pedagogical technologies made it possible to identify specific features inherent in pedagogical technologies: Conceptuality
(scientific base): each pedagogical technology should be inherent in reliance on a certain scientific concept, scientific justification for achieving educational goals. Consistency: pedagogical technology must have all the features of the system: the logic of the process; the interconnection of all its parts; integrity. Diagnostic targeting and performance - guaranteed achievement of goals and the effectiveness of the learning process.

Controllability: the possibility of diagnostic goal-setting; planning; designing the learning process; step-by-step diagnostics; variation by means and methods in order to correct the results. Performance-based and cost-efficient, guaranteed to achieve planned learning outcomes within a short timeframe. Reproducibility (algorithmability, designability, integrity, controllability) - the possibility of using pedagogical technology in other educational institutions of the same type, by other subjects.

Correctiveness - the possibility of constant operational feedback. A fundamentally different approach is used by V.P. Bespalko, noting that “any processes occurring under certain conditions, together with these conditions, are called systems ... Systems in which pedagogical processes are carried out are called pedagogical systems”. At the same time, the structure of the pedagogical system appears to them as two interconnected groups: a group of elements that formulate a pedagogical task (students, educational goals, educational content), and a group of elements that form a pedagogical technology (learning processes, organization of training, teacher and / or teaching aids

**Literature:**