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USING A SYSTEMATIC APPROACH TO TEACHING PROGRAMMING LANGUAGES

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Abstract
In this thesis, improvement of methodological approaches to teaching programming technologies in general secondary schools.

Key words: programming, systematic approach, program class, semantics, program structure.

Improving the methodological approaches of programming technologies in general secondary schools is one of the important issues of today's day [1]. Therefore, in the training of future professionals in the field of computer science, it is important to develop alternative approaches to programming technologies to develop alternative approaches to programming technologies.

The term "approach" is described as a set of principles determining the education strategy, while each principle regulates the solution of specific controversy and their interactions, the main contradictions [2]. So, the initial content of the concept of "approach" is a set of a specific idea, concept, which determines to address examples, and the process of teaching issues, and the training of issues, and the training of various practical projects.

Currently, there are a number of research to develop methodological approaches of programming languages in the system: system approach (I.O. Odintsov, M. A. Kurilov, S. B.Ivanova, V. N. Piguz, YuN Nilova , YuN N.Nilova and others); Activity approach (E.A. Reedina, etc.), cognitive approach (J.Rainfelds, etc.); problematic approach (E.V. Kasyanova, K.Yu. Polyakov etc.); semiotic approach (P. Andersen, K. I. Bauman, N.I. Ryjova et).

As a result of the analysis of the work of the above scientists, it is advisable to use a systematic approach to teaching the efficiency of programming languages in general secondary schools.

Systematic approach is based on considering objects as a system. It is important because the research is aimed at revealing the integrity of the object, identifying various connections in it and bringing them to a single theoretical conclusion. The analysis of scientific literature showed that the main categories of the systematic approach are system, structure and environment[3].

In this regard I.O. Odintsov [4], M. A. Kurilov [5], S. According to B.Ivanova [5], the system is a set of sustainable ties between the object of the object, that is, elements that ensure the conservation of key features during different external and internal changes.

In our opinion, the systematic approach is a general scientific generalized system that provides a comprehensive study of a complex object using structural, functional and parametric types of analysis.

Therefore, it is important to use a systematic approach to teaching programming in general secondary schools. In this, the following features are implemented: integrity; communication; structure and organization; system levels and their hierarchy; management; self-organization of the system; activity and development.

- A systematic approach is to teach students programming based on ensuring interdisciplinarity with other disciplines and scientific knowledge. The study of interdisciplinary communication as a pedagogical problem, according to the theory of academician I.D. Zverev, allows to determine the following main functions [6]:
- formation of a scientific outlook;
- developing a system of preparing students to solve practical problems;
- development of mental activity;
- to support the general education of students;
- organizational-pedagogical functions.

Programming languages requires the study of interdisciplinary interaction, especially with the science of mathematics. Programming is engaged in the concepts of mathematics, such as line. The incision model for these subjects is the concepts of process. An object of formation of various variables, constants, points or complex systems can be given to the psychological models that are formed in the mathematics and programming course. At the same time, organizing the programming of programming with mathematics is effective.

Mathematics and programming is a common basis, consisting of common disciplines such as mathematical modeling, mathematical logic, probability theory, geometry and mathematical analysis. Therefore, it is important to have mathematical knowledge in the development of computer sports and programming technologies.

Programming technologies should be programmed based on mathematical laws, which are interpreted as objects, have certain information and logical structure, and are executed in automatic devices.

In this regard, J. K. Kurbekova said the Operator and Recent Applications Model Theory of Programming technology, based on some abstract systems: (D, F, P). In this case, D data fan, f = {f_1, f_ (2), F_M} False package function, p = {p_1, p_ (2), ..., ..., ..., ..., ..., P_n} are the number of arguments for each character [1].

Teaching programming includes the formation of abstractions above includes formation of skills. The definition of the program class, in turn, means the designation of a constructive object (program structure), the design of a specific science and the set of predictions for each program and the method of comparison (semantic).

In conclusion, it is effective to use a systematic approach to teach programming examples and problems to students in general secondary schools. By using a systematic approach, it is possible for the student to increase his logical, algorithmic thinking and develop his competencies.

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