EFFICIENCY IN TEACHING INFORMATICS AND INFORMATION TECHNOLOGIES

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Annotation

This article provides ideas on the consistency, place and importance of teaching computer science and information technology in the higher education system.

Keywords: ICT components, horizontal level, vertical level, technological and didactic.

Introduction

Consistency in the teaching of computer science and information technology can be considered at two levels: "horizontal" - in the context of a single educational institution (consistency between components of the general system of educational process) and "vertical" - in the context of different educational institutions (secondary and higher education). The internal position of the learner for the effective implementation of consistency in the teaching of computer science and information technology (hereinafter - IT), his willingness to strengthen and improve the knowledge acquired at an earlier stage, as well as external influences (society, educational needs of the population, economy, culture, etc.).

An important aspect in the study of the problem of consistency in the higher education system is to identify the links between the stages. Understanding the systemic nature of the process of training a specialist who can confidently use computer technology, information and communication technologies in their professional activities creates a real basis for ensuring consistency in the education system. The unity and continuity of the consistent formation of specific skills and abilities is determined by the curricula at all stages of training. Curricula in computer science are interconnected within the field of education, they reveal the goals, values, organizational forms, methods and tools of teaching computer science, Analysis of curricula in terms of information support features shows that the content of the training course is aimed at the formation of both educational skills and special skills in the information society provides the necessary information base. The sequence of pedagogical cooperation of teachers of informatics and information technologies in higher education institutions can be seen in Table 1.

University informatics and IT teachers
Consistency in pedagogical collaboration

Content compatibility of the studied modules

1. Information. Information processes.

2. Computer. Computing techniques.

3. Modeling. Algorithmization. Programming.

4. Information and communication technologies.

5. Social informatics

ICT components

- Meaningful

- Technological

- Activity

- Motivational

-Pedagogical

Principles

- Integration - Comprehensibility and accuracy

- Coordination - Scientific

- Ranking - Systematic

- The relationship of teaching theory with practice

The sequence of pedagogical cooperation of teachers of higher education informatics and information technology in the table above depends on the content relevance of the studied modules, ICT components and principles. The semantic-logical compatibility of the studied directions in teaching computer science and IT requires the formation of a high level of information and communication literacy in accordance with the logic of teaching. At each stage of teaching, the student and the student acquire additional knowledge masters, expands practical skills and abilities, they gradually form a solid system of knowledge, form a person's worldview, develop thinking, increase the level of information and communication literacy.

On the basis of a systematic approach, we determine the content of invariant course curricula and distinguish five main areas of study, which form the basis of the disciplines "Computer Science" and "Information Technology" in schools and universities:

1. Information. Information processes.
2. Computer. Computing techniques.
3. Modeling. Algorithmizing. Programming.
4. Information and communication technologies.
5. Social informatics.

The study of the invariant part of the curriculum should be organized "in a spiral" in the process of teaching computer science in secondary school. First - to get acquainted with the concepts of all the studied content networks, and then, at the next level of training, - to study the issues of those modules, but now in terms of quality on a new basis, deeper, by adding some new concepts relevant to this network. Depending on

the number of study hours allocated for computer science, such "packages" can be two or three, and in higher education institutions a new "package" goes with in-depth and specialized study of modules.

In conclusion, it provides consistency of the course of computer science and information technology in the higher education system, in the field of computer science acquired at school regulates knowledge and deepens it in higher education, taking into account the future profession, develops the necessary skills and competencies to work with information and communication technologies, expands their practical application in the study of other disciplines.

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