Principles of Selection of the Content of Training Specialists in the Field of Computer Science to Create Applications Using the Capabilities of the Net Platform

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ABSTRACT

Considering the principles of selecting the content of training of future specialists using the technologies of the .NET platform, we will focus on the concept of the content of education and the principles of selection that exist in Russian pedagogical science.

Keywords:

Introduction. Taking this into account, the content of training specialists in the field of computer science in the application of technologies provided by the modern Web-oriented .NET platform will be understood as a set of knowledge in the field of capabilities of these technologies, as well as practical skills and skills necessary for the implementation of educational and professional activities using these technologies.

Under the content of education, following V.V.Kraevsky, V.S.Lednev and others, we will understand scientific knowledge necessary for future activities, and practical skills and skills necessary for the application of knowledge in practice.

The content of training specialists in the field of computer science to use the capabilities of the .NET platform should be aimed at the formation of:

- initial knowledge in the field of technologies provided by Web-oriented platforms;
- knowledge of the architectural features of applications using these technologies;
- skills and abilities to work with software created on the basis of these technologies;
- the ability to plan their educational activities in the application of these technologies (to determine the feasibility of using the technologies of the .NET platform in the educational process, take into account their capabilities and choose rational methods of their application);

the correct organization of activities related to the use of the described technologies.

In didactics, there is a system of principles for selecting the content of education, describing:

- the orientation of the content of education to the implementation of the main purpose of education - the formation of a comprehensively and harmoniously developed personality;
- scientific approach in the construction of the content of education;
- compliance of the content of education with the logic and system peculiar to a particular science;
- building the content of education based on the relationship between individual disciplines;
- reflection of the connection between theory and practice in the content of education;
- compliance of the content of education with the age capabilities of students.

Training in the development of applications based on modern Web-oriented platforms and their use in educational and professional activities, of course, should fully meet the above principles.

Based on the analysis of the capabilities of modern Web-oriented platforms and consideration of the existing system of training students of higher educational institutions, we formulate the principles of selecting the content of training specialists in the field of computer science to create applications using the capabilities of the .NET platform.

The principle of interrelation of the content of the training discipline with the content of other disciplines provided for by the standard. The content of the training discipline is formed based on the content of some general professional disciplines and disciplines of subject training, and its introduction into the training system of future computer science teachers affects their content. This principle reflects the principle of integrity, highlighted by T.A.Lavina, which assumes ensuring the unity of individual parts of the discipline and connection with other disciplines of pedagogical training.

Let's consider this principle in more detail. One of the areas of training for specialists studying information technology should be related to the development of programming technologies. Consideration of the state educational standard allows us to conclude that the direction of development of computer science related to programming, more precisely with programming technologies, is presented rather narrowly and is not adequate to the current level of development of technologies of Web-oriented platforms. Along with the study of the structural and object-oriented programming paradigm, the training program for computer science specialists should also include the study of modern programming technologies: service-oriented programming based on modern Web-oriented platforms, component technologies, visual programming technologies, etc. The study of these technologies will allow a future computer science specialist to understand the patterns of development of programming technologies, as well as to master the skills of creating effective programs and become a qualified specialist in the field of programming.

In our opinion, the system of training students in the field of programming technologies should have the following structure:

- fundamentals of programming (structural and modular programming);
- object-oriented and visual programming;
- service-oriented programming and the capabilities of the .NET platform;
- programming of information systems.

This structure of the study of programming technologies will allow:

- to show the spiral of development of programming technologies in the evolutionary cycle of development of computer technology and computer science in general;
- to prepare a qualified specialist in the field of programming, which will provide him with the necessary level of knowledge not only for teaching computer science at the profile stage of studying computer science, but also for performing the functions of an organizer of computer use for administrative purposes and management;
- implement the principle of humanization, ensuring the competitiveness of the future specialist;
- provide the necessary amount of knowledge and skills for the development of their own training programs (high quality), the implementation of distance learning courses.

Service-oriented programming is one of the modern programming technologies, which, along with operational programming included in the training program for future computer science teachers in the discipline "Computer Architecture" on the example of machine-oriented Assembly language, structural and object-oriented programming, studied in the course “Programming”, should be included in the system training of computer science teachers within the disciplines of specialization. The introduction of the course “Web-oriented .NET platform” into the system of training future computer science teachers provides the propaedeutics of some general professional disciplines and disciplines of subject training and will ensure the relationship with other courses provided by the standard.

They get acquainted with the technology of

structural programming in the framework of a school computer science course, and then at a university when studying the discipline "Workshop on solving problems on a computer". The discipline "Programming" provides familiarity with the basic ideas of object-oriented programming technology. In addition, the study of technologies provided by the .NET platform should be included in the training system for computer science teachers in one of the special courses.

Students will be able to use programming skills using the capabilities of Web-oriented platforms (in particular the .NET platform) when studying subject training disciplines. For example, these skills ensure the integrated use of software knowledge (in particular, the MS Excel spreadsheet processor) and programming in the study of disciplines such as "Probability Theory and Mathematical Statistics", "Numerical Methods" and others, thereby ensuring interdisciplinary communication of disciplines.

In addition, the use of means of interaction with databases within the framework of the discipline "Information Systems" will lead to a deeper study of the content of this discipline, and will increase the time directly for the development of database applications by reducing the time to study the shell, syntax and semantics when using a programming environment unfamiliar to trainees, on the other hand.

Since the technologies of the .NET platform are an important tool when creating training programs in operating systems with a graphical interface, when creating websites and portals that allow you to participate in information interaction, we will show the connection of the content of disciplines with the capabilities of the platform technologies.

In addition, programming using the capabilities of the .NET platform has great potential for further improvement of teacher training in the field of programming, which can be reflected in special courses.

The choice of the disciplines listed in Figure 3 is justified by their connection with the development of programming technologies, as well as the necessity and prospects of the chosen directions: Web programming; development of database applications using client-server technology; macro programming for software.

Thus, the structure of the relationship shows that the technologies of the .NET platform are better studied in conjunction with other disciplines, which is confirmed by the opinion of M.V.Shvetsky, who believes that only a comprehensive, comprehensive theoretical and practical study of disciplines, combining all components of computing culture, can give a full-fledged specialist in the field of modern programming technologies.

In addition, familiarity with the technologies provided by modern Web-oriented platforms (in particular .NET) provides a logical continuation of the chain of disciplines for the study of programming technologies, consolidation and expansion of theoretical knowledge of the principles of object-oriented programming, and also provides the learner with the skills of high-quality software development.

Let's move on to the formulation of the principle of applied orientation of training. This principle presupposes the provision of independent practice-oriented actions for the implementation of information activities with a clear understanding of the specific goals and objectives of educational activities, with an independent choice of the method of information educational activities, with variability of actions in the case of an independent decision.

References:

1. Липаев *В.В.* Обеспечение качества программных средств. Методы и стандарты. Серия «Информационные технологии». М.: СИНТЕГ, 2001. -380 с.
2. Ховард М., Лебланк Д. Защищенный код /Пер. с англ. - М.: Издательско-торговый дом "Русская редакция", 2003. - 704 с.
3. Шумаков П.В. ADO .NET и создание приложений баз данных в среде Visual Studio .NET. Руководство разработчика с примерами на C#. - М.: ДИАЛОГ-МИФИ, 2003.

4. iSpiftnei. Introduction to Web-services Architecture.http: //www.systinet.com/.
5. Gayratovich, E. N. (2021). Specific aspects of educational material demonstration on the basis of visual technologies. International Engineering Journal For Research & Development, 6, 3-3.
6. G'ayratovich, E. N. (2022). It Is A Modern Educational Model Based On The Integration Of Knowledge. Eurasian Scientific Herald, 5, 52-55.
7. G'ayratovich, E. N. (2022). The Theory of the Use of Cloud Technologies in the Implementation of Hierarchical Preparation of Engineers. Eurasian Research Bulletin, 7, 18-21.
8. Ergashev, N. (2021). Methods of using visualized educational materials in teaching programming languages in technical universities. innovation in the modern education system.
9. Ergashev, N. (2020). Didactic fundamentals of electronic books visualization. An International Multidisciplinary Research Journal.
10. Ergashev, N. (2020). Using the capabilities of modern programming languages in solving problems of technical specialties. An International Multidisciplinary Research Journal.
11. G'ayratovich, E. N. (2022). The Problem of Training Future Engineer Personnel on the Basis of Cloud Technology in Technical Specialties of Higher Education. Eurasian Scientific Herald, 13, 1-4.