



Developing the Competencies of Intending Computer Science Teachers in the Field of Web Design

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Article History	Abstract
Received: 13 June 2023 Revised: 12 September 2023 Accepted: 21 September 2023	<i>The article presents recommendations and methods of their use aimed at developing the competencies of intending computer science teachers in the field of web design. In a globalized world, we are faced with the use of the Internet system based on digital technologies in all spheres of human activity. This has led to a sharp increase in demand for web design professionals who can provide Internet users with convenient access to network resources. In this regard, thinking about the quality and tasks of training specialists in this field, working out ways to solve existing problems is one of the most relevant today.</i>
CC License CC-BY-NC-SA 4.0	Keywords: web design, graphic design, digital technologies, web competence. Today, the development of the state and the prosperity of society are largely determined by its intellectual potential. Because a country with a highly developed scientific potential will always be progressive in all spheres. Therefore, the cardinal reform of the education system in our country is considered as a priority task of national importance, and much attention is paid.

1. Introduction

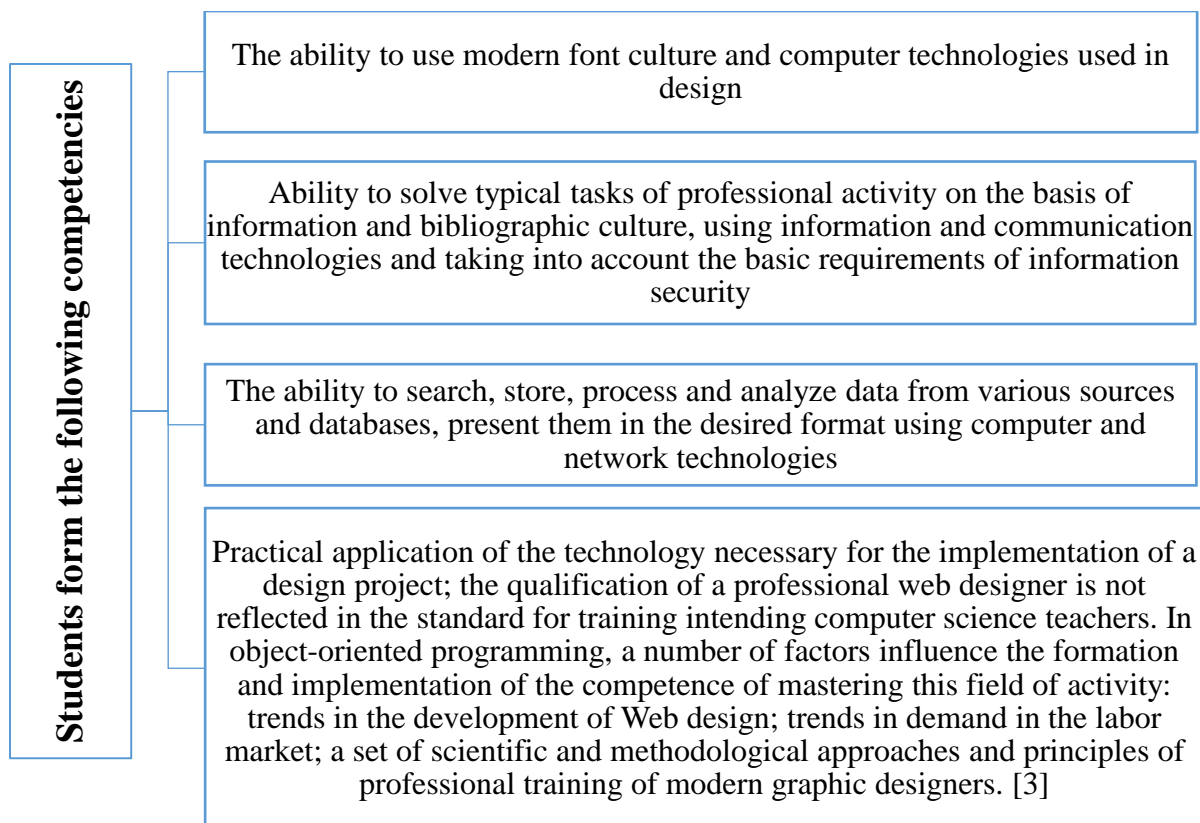
There are specific requirements for the organization and management of the educational process to achieve the training of highly qualified professional personnel. Firstly, the level of mastering the professional knowledge of students is associated with ensuring their compliance with the requirements of state educational standards. Secondly, to achieve full coverage of independent creative activity of students-students with a range of knowledge, skills and abilities established by state educational standards. The rapid development of society in this way, the need for highly qualified personnel require the teacher to meet social requirements, showing intellectual abilities.

The main results and findings

Thus, there is practically no sphere of human activity left in which computer and web design would not be applied. Design as a phenomenon of social life, in which new knowledge and technologies assimilate and adapt objects, has become a broader concept, actively developing in all spheres of human creativity, namely, "project culture". Web design is one of the most important disciplines for a future specialist, it is aimed at the development of web competence of students, the development of their creative abilities and the formation of a qualified specialist capable of independently solving professional tasks, properly organizing their time. These goals are achieved in the discipline of web design: the development and consolidation of practical skills in the process of creating web projects in theoretical classes, practical and laboratory courses, as well as in the process of independent work.

One of the tasks of modern pedagogical and design education is to master the latest information technologies by intending computer science teachers. As a result of the rapid development of global Internet technologies, the process of Web design, in particular the development of a Web site and its use in various spheres of human activity, grew rapidly, which made it one of the fastest growing industries. information technology industries. or, in other words, one of the urgent tasks was the formation of intending computer science teachers' knowledge, skills and skills for deep mastery of technologies for creating websites and websites. Providing professional guidance to intending web designers, web page creators and equipping them with the necessary knowledge and skills, general principles of web page development, design solutions, web design and graphic design regularly raise many questions about the differences and similarities between them. in professional circles. Some experts believe that the development of mobile technologies has led not to a decrease in attention to web technologies, but to their further development and popularity. The organization of round tables of graphic and web designers, congresses and conferences, various advertising associations confirms the above. The main issue discussed is the relevance and complexity of modern web design, the problems of its study and solution during the rapid development of the industry. One of the best ways for web designers to obtain knowledge and skills of web design is online courses. In most cases, such courses give a very narrow idea of the specialty - the course can be organized with the possibility of communicating with the teacher by phone or computer in real time. In addition to online courses, knowledge of this profession can be obtained at courses of leading training centers with practical designers through an instructor. Another way to become an expert in this field is to get a bachelor's and master's degree in web design. This opens up opportunities for research and analysis in the field of web design in higher education institutions. In the process of creating Web sites and their public implementation, higher educational institutions are interested in organizing and attracting various laboratories to form concepts that a future specialist should know: Web design is a professionally oriented unit of future specialists. it is seen as a criterion that plays an important role in deterrence. Thanks to this curriculum, we can talk about special training of students, since web design combines all knowledge, both theoretical and practical, with various areas of graphic design. There is no doubt that the ability to work with graphic and visual information is one of the mandatory components of web designer training. a intending web design specialist studies information technology, web design and computer graphics from the first year of undergraduate studies. Web design is one of the main subjects in the curriculum of computer science teaching methods. With the development of web design as a professional activity, new requirements are imposed on the education system of designers: graduates must master the technologies of the Web space after graduation. Graphic design and web design are becoming an important part of the training of modern web designers, and the inclusion of this subject in the curricula of pedagogical higher educational institutions indicates the need to improve the methods of teaching students so that they are professionally in demand in the labor market. However, it should be noted that there are certain difficulties in the practice of teaching this discipline to students in higher educational institutions. Determining the specifics and complexity of teaching web design in pedagogical universities should begin with taking into account existing prospects in the field of web design. [1] Currently, one of the modern trends is the object view in the graphic design of a website. Other practitioners consider web design and graphic design as different professional activities. Web design and graphic design are generalizing concepts. These directions have a common origin, that is, they are based on concepts such as coloristics (the ability to combine colors and shades), propaedeutics, the basics of project graphics, the basics of font culture. In addition to web design and graphic design, in addition to artistic taste, excellent knowledge of a set of graphic editors (for example, Photoshop, Illustrator) and layout software. Nevertheless, the design of websites and print materials has a number of fundamental differences that are more technically related, but also affect the creative process itself. [5] A web designer is a computer technology specialist who is responsible for the appearance of a website. He invents various graphic elements, logos, banners for the site, thinks over the functionality of site navigation - determines how the text will look and where to place it. The designer should not only create an interesting and professional website, but also take into account its loading time. At the same time, a web designer should focus not only on visual design, but also take care of the usability of the site. In his work in this context, the graphic designer works closely with programmers, which allows him to create an effective website. Based on this assumption, the graphic designer applies his knowledge of HTML, CSS languages and html layout

basics in his work. Thus, web design is considered as the process of creating websites, where the keyword is a website and consists of technical development, creating a convenient structure for a web page, graphic design and data transmission to the network. The first difficulty of developing web design for graphic designers is to consider web design as an independent field or one of the areas of professional activity of graphic designers. In the modern mobile world, Internet design or web design remains one of the trends in graphic design and often goes beyond the professional product due to the technological universalization of results. Taking into consideration the complexity of modern technologies, the process of creating Web resources falls on the shoulders of various specialists. In addition to web designers, telecommunications engineers, programmers, and others are also involved in this process. It is almost impossible to complete a complex project for one person, so each specialist should pay attention to fulfilling his duties. This combination of professional interests is the most effective way of the website development process from the creation of the design concept to the final layout of the website, since each specialist is engaged in his own business, each team solves a specific task. The lack of specific studies of the content and methodology of teaching web design for students of pedagogical higher educational institutions creates difficulties in teaching and introducing the subject into practice. Scientific and methodological research is mainly focused on electronic textbooks close to web design, and the possibilities of the Internet in distance learning. Studying the available electronic manuals and career guidance seminars, we can say that the main attention is paid to technical training, the study of computer graphics programs. While books, articles, and websites are devoted to the problem of the effective use of computer graphics and web design as tools for the work of designers, art culture and graphic language are devoted to understanding the problems of creating creative workflows in web design. Questions about the content and methods of teaching students web design - intending web designers need a systematic scientific base. Web design is one of the professions that can be obtained in special education courses, in professional higher educational institutions, in pedagogical universities, in specialized author courses. In this article, we will look at how you can acquire web design skills in pedagogical higher educational institutions in the direction of "Methodology of teaching computer science". In it, we will consider the problems of creating web design concepts in pedagogical higher educational institutions and ways to overcome them, which depend on the competencies formed in this area. The purpose of the training program for intending computer science teachers is to form the competencies of a future specialist that can effectively solve various (general cultural, general cultural, and professional), as well as professional tasks related to SMM technologies, problems of multimedia and visual communication and its contribution to professional mobility, competitiveness and stability of the labor market, as well as educational institutions, in particular where he works.[2]



Based on the theoretical analysis of special literature concerning the possibility of free movement on the global Internet; the ability to create basic logical structures of the site, its appearance, and easy-to-use Web content; the ability to stylistically design a project, the requirements for intending computer science teachers who can work with graphic information in the Internet space can be formulated as follows:

- The ability to develop websites in accordance with modern requirements, using various graphic and web editors; website promotion, knowledge of the features that distinguish it from other websites in the area to which it belongs. In other words, a web designer must have basic interface design skills using modern hardware and software (the author's design concept and individual elements) (how designers work, how long it takes to create a website, and how to manage the site). Focusing on learning how to use modern graphic and Web design programs to help web designers improve their skills, our focus on developing the ability to create stylistic unity of Websites and develop artistic taste contributes to improving the quality of visual communications. Pedagogy the formation of such special competence in the field of web design among students of higher educational institutions makes it possible to establish logical connections between the components of professionally oriented disciplines, which affects the integrity of the pedagogical process. Difficulties in teaching computer science teachers to web design also lie in the technical equipment of the educational process. Due to the obsolescence or complete lack of a modern material and technical base, as well as due to access to the Internet, not all specialized departments can provide the necessary training in this subject. A large amount of software (graphic and web editors) is used in the learning process. Information technology is a dynamically developing field characterized by frequent changes in software. In most cases, this is due to a radical change in the way the software is used. These circumstances can lead to a delay in the student's learning process, which is associated with the need for certain skills at the moment. Consequently, an intending computer science teacher cannot use his opportunities, since the knowledge he received at the beginning of his professional activity, the concepts that he has developed in, can be considered obsolete. The content of the program should be focused not only on the study of graphic and web editors but also on teaching the intending professional the knowledge, skills, and abilities listed below. It's not enough to know how each editor works. Knowing the program, it is impossible to immediately start practical work on the development of a website. It is

important to understand what web design is, how a designer's work works, what clients expect, and how to look for ideas; work modularly when creating a website and create your own module; know the features of color and font composition; work with UX and UI design, know the difference between mobile and web design, etc. To do this, you need to pay special attention to allocating hours to study this discipline. It was found that existing web design programs have fewer lecture hours per semester to fully understand the subject. Familiarization with graphic and Web editors in practical and laboratory classes and providing ideas for their effective use, explaining their categories, as well as planning processes related to the creation and organization of a professional Web project are sufficient to achieve short-term results. In order to improve the effectiveness of training intending computer science teachers as web specialists, it is necessary to include a theoretical part in the curriculum with the inclusion of lecture material, as well as increase the number of hours allocated for training. [4] One of the most important problems of teaching this discipline is the level of professional skills of teachers. As a rule, teachers should adequately understand modern information and the technical possibilities of using computer-based learning. Some specialists in the field of computer technology have no idea about the features of using modern information technologies in education, so web design teachers should have knowledge in the field of network technologies and various types of design. have extensive knowledge, and know the basic principles of teaching methods on the subject of design. Invite professional workers – designers, practitioners, and programmers to the relevant departments, as well as train teachers to eliminate the identified shortcomings in advanced training courses or professional retraining courses in relevant higher educational institutions or leading design organizations. he should be trained in the process of practice. Based on this, we can say that the web design course is important for the organization of Web competencies of intending computer science teachers. This allows us to talk about a systematic approach to the professional training of future specialists. The need to develop a methodology for training intending web design specialists and filling the content of this discipline specifically for graphic and web designers increases the effectiveness of their professional mobility in modern society.

2. Conclusion

Improve the methodological training of intending teachers of computer science and information technology to teach the subject of their specialty, it will be necessary to purposefully organize the educational process, understand the goals and objectives of this process well, and comprehensively master innovative education, information and communication technologies and digital technologies. In the modern information society, the media are considered a means of education, the use of media in the educational process, the formation of a modern teacher's skills in working with the media, understanding the essence of education through the media, disclosure, improvement of pedagogical potential and conditions for the use of various media (information technology, Internet, social networks, screen art, television, advertising, interactive games, computer animation, and etc.), readiness to use pedagogical models and mass media in the educational process.

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