

PRINCIPLES OF TEACHING WEB-ORIENTED PROGRAMMING LANGUAGES IN THE EDUCATIONAL PROCESS

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Abstract

This article delves into the essential principles guiding the instruction of web-oriented programming languages within the educational realm. It explores the dynamic landscape of programming languages specifically tailored for web development and elucidates on the pedagogical approaches best suited for effective teaching. The author likely delves into methodologies that align with the ever-evolving nature of web technologies, addressing both foundational concepts and advanced techniques. Expect insights into fostering a comprehensive understanding of web-oriented programming languages, with a focus on practical applications and real-world relevance in the educational process. This article is a valuable resource for educators, providing guidance on structuring curriculum and employing teaching strategies that cater to the unique demands of web development education.

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In the ever-evolving landscape of technology, web-oriented programming languages play a pivotal role in shaping the digital world. Teaching these languages within the educational process requires a nuanced approach that aligns with the dynamic nature of web development. This article explores key principles that educators can employ to effectively impart knowledge on web-oriented programming languages.

Understanding the Educational Landscape. Before delving into teaching strategies, it's crucial to understand the current educational landscape. The article discusses the significance of web development skills in today's job market and how teaching web-oriented programming languages can empower students for real-world scenarios[1].

Foundational Concepts. Effective teaching starts with a solid foundation. This section explores the fundamental concepts of web-oriented programming languages. From HTML and CSS to JavaScript, laying a groundwork that encompasses the basics is essential for students to comprehend the intricacies of web development.

Practical Applications. The article emphasizes the importance of practical applications in the learning process. Providing hands-on experiences, such as coding projects and web development exercises, enhances understanding and ensures that students can apply theoretical knowledge to real-world scenarios.

Adaptive Teaching Strategies. Given the fast-paced changes in web technologies, the article advocates for adaptive teaching strategies. Educators should stay abreast of the latest developments and be ready to adjust their curriculum to reflect industry trends, preparing students for the challenges they may face in the field.

Project-Based Learning. A significant portion of the article is dedicated to the benefits of project-based learning. Engaging students in the creation of web applications or websites allows them to synthesize their learning and gain practical experience, fostering a deeper understanding of the programming languages involved.

Real-World Relevance. To keep students motivated, it's crucial to highlight the real-world relevance of the programming languages being taught. The article discusses industry applications, showcasing how skills in web-oriented programming languages translate to career opportunities in various sectors[3].

We also studied other web sites of this type for teaching web programming in higher education organizations, studied their working system, working principle and existing problems during the research. As an example, when the Ministry of Higher and Secondary Special Education Samarkand State University was analyzed, the following was studied:

The science work curriculum is created based on the knowledge and requirements that must be mastered by undergraduate students, and the knowledge and skills that a future science teacher must acquire. includes a set of:

This program describes the main and modern programming languages used in web design, their structure and methods of using them, the advantages and disadvantages of each program, the development trend and perspective of the science, as well as the impact of the work being carried out and the results obtained in this regard in our republic on the perspective of programming languages used in the field of web design. covers issues. Formation of appropriate knowledge, skills and qualifications for students on the client side and on the server side in terms of the basic concepts, structure, scope of use and methods of their use[4].

Students were taught the basics of the HTML hypertext language, JavaScript, PHP programming languages for programming web interfaces to web pages and databases. In recent years, more and more e-learning platforms have been introduced to support professors and students in conventional education or remotely through modern technologies. The eLearning platforms that play an important role in higher education are very diverse and can be divided into the following categories:

1. based on memory (Memrise, Duolingo).
2. exercise/project based (Codecademy, Dataquest).
3. based on programming (Infoarena, HackerRank).
4. based on visualization (VisuAlgo, CodinGame)

Examples of modern technologies that teach web programming include www.w3school.com, www.geksforgeks.com, www.tutorialspoint.com, www.udacity.com and many other websites.

W3Schools is a free educational website for learning coding online. Originally released in 1998. W3Schools offers courses covering all aspects of web development. W3Schools also publishes free HTML templates. It includes an online text editor called the TryIt Editor, where students can edit the examples and run the code in the test environment.

The manuals are divided into separate chapters on language development. In addition to basic information, implementation options and examples related to the program are documented, as well as specific elements of the programming language (called "references"). In addition, there is a YouTube channel and an Internet forum that covers and explains specific topics in web development. Supports

HTML, CSS, JavaScript, JSON, PHP languages, AngularJS, SQL, Bootstrap, Node.js, jQuery, XQuery, Ajax and XML[5].

It is important to use advanced and modern methods of teaching, to apply new information and pedagogical technology for students to master science successfully. Textbooks, educational and methodological manuals, lecture texts, handouts, electronic materials, and posters are used in mastering the subject.

Advanced pedagogic and computer technologies are used in lectures and practical sessions, respectively.

In the educational process, the following conditions that determine the quality of passing the subject are taken into account: teaching at a high scientific level, reading problematic lectures, interestingly organizing lessons in a question-and-answer manner, using advanced pedagogical technologies and multimedia tools, to put before the listeners the problems that encourage and make them think, to engage in free communication and scientific research.

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