IMPROVING THE METHODOLOGY FOR TEACHING PROGRAMMING LANGUAGES AND TECHNOLOGIES

Sa'dullayev Avaz,Akmal o'g'li

Teacher of the Department of Computer Systems, non-state educational institution "Economics and Pedagogical University", Uzbekistan

ABSTRACT

Programming methodology is one of the oldest fields of IS education, and thus various methods have evolved for its teaching. While some of them could be used effectively in primary or secondary education, others are more suited for students in higher education. The methods themselves determine the structure and curricula of courses such as Programming methodology, Data types and algorithms, Programming technology.

KEYWORDS: Methodical, programming, teaching, improvement, topic, relevant, research, creativity, faster learning, practice.

INTRODUCTION

To improve the methodology of teaching the basics of programming, the following methods can be indicated:

Several methods have been developed for teaching programming since then. A few of them have already become out-of-date, most of them, however, are still in use at a certain level of education. Although some of them are related to methodology of program design, the majority of the methods are independent from them.

Here is a list of the most widespread methods in teaching programming:

- methodical, algorithmic oriented
- data oriented
- specification oriented
- problem type-oriented
- language oriented
- instruction oriented
- mathematics oriented
- hardware oriented
- model oriented.

Methodical, algorithmic oriented This method, similarly to many others, covers the whole process of programming: - problem definition, specification

- algorithm and data structure planning, comprehension of the correctness of the algorithm
- coding
- testing
- error detection, correction

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- efficiency control, quality control
- documentation.

Each activity is to be dealt with separately. The methods and tools connected with the topic should be considered in each case. Algorithm elaboration is considered to be of primary importance in this method, thus most of the emphasis is laid upon this during teaching. There are algorithmic oriented elements in later phases as well [2].

4. Refresher and refresher: Demonstrate refresher and refresher opportunities by identifying and performing programming model/lab exercises designed to address programming field activities and programming fundamentals. It is necessary to develop a methodology for making software training special, which should improve the educational process and show students the possibilities of solid knowledge and skills development in the field .

Core: Programming Fundamentals There are several reasons why teaching methodology should be presented in a visualized environment [3]. The methodology of teaching the basics of programming in a visualized environment helps students to express their thoughts correctly in the classroom. For example, students want to practice using a model that visualizes the program code , making it easier for them to create the program and identify hidden errors.

In addition, programming fundamentals teaching methodology helps students create mental images and understand programming concepts in a visualized environment. Students feel comfortable looking at code, make clear ideas, and use it to explain themselves to approve programming [4]. teaching the basics of programming in a visualized environment is very important in learning the concepts of these lessons in order to learn and understand programming, and in the implementation of practical exercises. Also, this method will be useful for teachers to create specialized lesson materials and use the Internet, new technologies and mobile applications. Therefore, it is important to understand how to improve programming fundamentals teaching methodology in a visualized environment. Here are some steps you can take to improve your programming fundamentals teaching methodology in a visual environment [6]:

1. Web Analysis: This includes the use of websites, web tutorials, and instructional videos to help identify learning methodologies, new information support, and boundaries .

2. Use of visual teaching tools: Animations, infographics, programs, experimental samples, test programs, short lessons, etc., are tools used to facilitate the learning of visual information teaching methods [5].

3. Creating a guide : organizing the methodology by creating a guide and reference for teachers and students, facilitating the learning process and collecting information that is used in many areas of teaching. possible .

4. Interactive Learning : Use interactive programs to take lessons learned, apply information, and learn a reliable programming language.

5. Uzbek -resources: Search Uzbek-language resources for using programming basics, blogs, forums, and websites specifically for Uzbek teachers and students [3]. This increases the opportunity to learn a lot about the local history and techniques of teaching . With the above steps, you can go a long way towards improving and visualizing the methodology. The following steps are important in improving the methodology of teaching the basics of programming in a visualized environment [2] :

1. Compilation of necessary guides and textbooks for teachers and students in learning visual programming . These tutorials should be illustrated with visual images, easy programming tools or animations [1] .

Providing textbooks in a visual environment for easy use by teachers and students. For example, tutorials and learning the basics of programming through websites, video tutorials, handy apps or programs .

3. To strengthen the communication between teachers and students in the process of teaching the basics of programming. Students should be given the opportunity to address and address issues through forums, online meetings or Q&A sessions .

4. Creating practical exercises that are easy for teachers and students to master . Such exercises ensure that students learn the basics of programming and implement programs in practice.

5. Assessment of learning outcomes before and after teaching the basics of programming in a visualized environment. This will help to identify successes and

failures .

CONCLUSION

Introduction to the conclusion of the topic of improving the methodology of teaching the basics of programming in a visualized environment . This topic requires specific attention to teaching programs in a visual environment based on innovations and technologies in the field of programming . This methodology is aimed at teaching students by improving program structure, code visualization, interface and graphic design, animation and multimedia, and developing their skills and abilities in the process of creating a program. Concrete problems are analyzed and compounds in the product are determined. Based on the topic, educational-methodical methods, methodical activities, professional skills and their practical significance are noted. This method systematically creates a sense of the structure of the program, proves the states to the students, creates confidence among the students, and demonstrates "program completion".

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