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# ENHANCING THE EFFECTIVENESS OF INFORMATICS EDUCATION THROUGH MODERN DIGITAL TOOLS AND METHODS

***Madrakhimov Shukhratjon Shukurovich,***
***Madrakhimova Makhfuza Akhmedovna***
*assistant-teacher,Kokand State University, Uzbekistan*

**Abstract:** This article is dedicated to the integration of interactive methods with modern digital technologies in teaching the subject of Informatics and Information Technologies. It highlights the methods of using modern technologies in teaching the topic “Presentation Software”.

**Аннотация:** Ushbu maqola informatika va axborot texnologiyalari fanini o‘qitishda interfaol metodlarning zamonaviy raqamli texnologiyalar bilan integratsiyasiga bag‘ishlangan. Unda “Taqdimot dasturlari” mavzusini o‘qitishda zamonaviy texnologiyalardan foydalanish usullari yoritilgan.

**Аннотация:** Данная статья посвящена интеграции интерактивных методов с современными цифровыми технологиями в преподавании информатики и информационных технологий. В ней освещены методы использования современных технологий при обучении теме «Программное обеспечение для презентаций».

**Keywords:** Informatics, interactive methods, digital technologies, mind mapping method, brainstorming, filling in, clarification, integration, educational effectiveness.

**Kalit so‘zlar:** informatika fani, interfaol metodlar, raqamli texnologiyalar, idrok xaritasi metodi, miya bo‘roni, to‘ldirish, aniqlashtirish, integratsiya, ta’lim samaradorligi.

**Ключевые слова:** Информатика, интерактивные методы, цифровые технологии, метод ментальной карты, мозговой штурм, заполнение, уточнение, интеграция, эффективность обучения.

According to the Decree of the President of the Republic of Uzbekistan dated October 8, 2019, the “Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030” aims to increase the coverage of higher education in the country, prepare highly qualified, creative, and systematic-thinking personnel who can make independent decisions based on international standards, reveal their intellectual abilities, and create necessary conditions for their formation as spiritually mature individuals.

Taking these tasks into account, professors and teachers, during the educational process, must be able to select innovative educational technologies related to the content of education, design lesson plans and technological maps, apply the specified learning objectives in practice, and organize student-centered education based on the students’ age, psychological, and ergonomic characteristics. Furthermore, implementing reforms in all sectors of our country, changing people’s worldview, and preparing qualified specialists who meet modern requirements are demanded by life itself.

Great importance is given to strengthening the education system in the republic and aligning it with the demands of the times. In this regard, the preparation of specialists and the system of education and upbringing must be closely linked with the requirements of reforms. Preparing specialists who can meet modern demands and continuously improving education and all its components based on state requirements is one of the urgent issues we face.

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In recent years, in order to improve the quality of education, interactive methods have been effectively used in all educational systems. Especially, the integration of interactive methods with modern digital technologies yields even more effective results. One of these is the "Mind Map" method, which is a graphical technique for representing information in a form convenient for human perception during the thinking process — in logical and associative schemes. In other words, the mind mapping method guarantees a final result.

Stages of creating a mind map:

Brainstorming. This stage aims to explore the topic of reflection, i.e., the main topic. Usually, the topic or information is placed at the center of the map.

Filling in. Once the main idea is identified, the related main topics must be highlighted. They should have short titles and create a hierarchy on the map. If categories are too abstract, pictures should be attached to them, which creates associations and allows ideas to spread quickly. The second level of the map is where topics and ideas start to form. Topics at the second level should consist of one or two words. If the map is simple (not exceeding the third level), suggestions or notes can be added at the second level.

Clarification. The third and subsequent levels represent the process of refining ideas. Here, descriptive phrases, notes, and references can be used, as well as linking map elements with each other. This enriches the logical structure of the map.

Mind maps can be created on paper or mobile applications. Hand drawing is less convenient because during the process of filling and improving the mind map, branches often shift and change. Using applications, this can be done with one or two clicks. With digital technologies, it is possible to visualize materials on the mind map, supplement it with audio or video content, and transfer all these elements. Some popular applications for working with mind maps are: Bubble.us, Coogle, FreeMind, iMindMap, MindManager, Mindomo, Popplet, SpiderScribe, XMind.

Mind maps allow collecting all materials on one topic, considering all aspects, and seeing the general picture.

Below, we present a sample mind map prepared as an integration of interactive methods with modern digital technologies for teaching the topic “Presentation Software” in Informatics.

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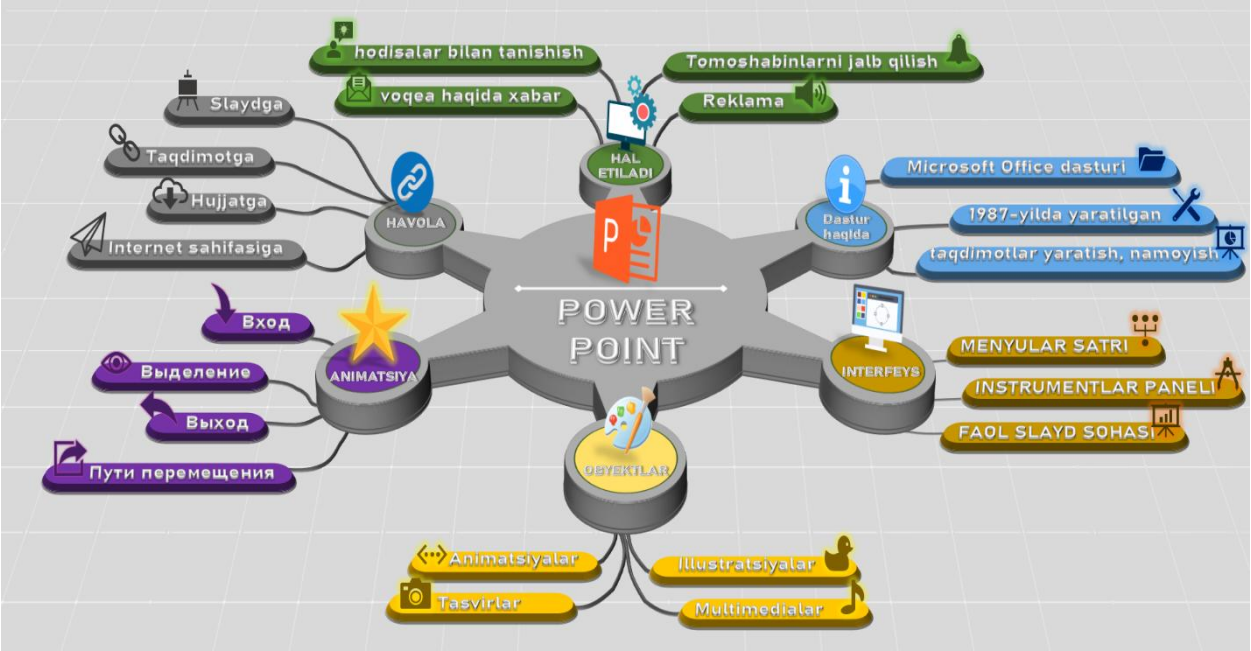


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