

## **Digital Pedagogy in the Educational Process of Pharmacology**

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### **Abstract**

This article highlights modern methods for the formation of knowledge, skills and abilities of students in the process of medical education in the context of digital education and digital pedagogy. The work will contribute to the expansion of opportunities for both teachers and students in the process of mastering topics in the subject of pharmacology.

**Keywords:** digital education, digital pedagogy, educational process, scientific and technological progress, pharmacology.

### **Relevance**

After the Republic of Uzbekistan gained socio-political independence, fundamental reforms are being carried out in all spheres of life. The reforms serve to create a democratic, humane, legal society, which is recognized through the development and progress of the republic. Since the task of building such a society is entrusted to the rising young generation, society, the family and the educational system, especially the medical education system, are equally responsible for the purposeful implementation of their education. One of the priority issues of state policy is the issues of professional potential, qualification level, moral character of the holders of professions related to medical education.

At present, in any social society, the upbringing of the younger generation is organized on the basis of a specific goal, and its effect is clearly visible in practice. The purpose of education is determined on the basis of the development of social society, the direction of its development, the content of social relations. Today, the main goal of education organized in the Republic of Uzbekistan is the education of a perfect person. In this place, the medical education system is also profoundly reformed. and the education of future doctors not only in professional skills, but also in the spirit of humanity and loyalty to the country is defined as a priority issue.

In order to improve the effectiveness of education, to ensure that the individual is at the center of education, and for young people to learn independently, educational institutions need well-trained teachers who, in addition to solid knowledge in their field, are proficient in modern pedagogical technologies and interactive methods, and also know the rules their use in the organization of educational activities. To do this, equip all subject teachers with new pedagogical technologies and interactive methods and constantly improve their skills in applying the acquired knowledge in educational activities.

Today, the use of audio, video, telecommunications, information technologies and technologies developed on the basis of the latest achievements of science and technology is of great importance in the field of education. Therefore, familiarity with their didactic capabilities and the ability to apply them in training will help future doctors in their future professional activities.

The work of educating a person is an extremely complex process, and mature people of society have been involved in this activity since ancient times. This situation means that it is important

to determine the development of the younger generation. Such a teacher is considered to be a teacher and a person working in institutions of his specialty from the point of view of psychology, and he performs the important task of creatively applying the laws and principles of education used in the forms of education, putting into practice the ideas, theories and laws of scientific knowledge.

The modern system of higher medical education requires the use of new educational programs, innovative pedagogical methods, the use of modern information technologies for teaching, the use of distance learning methods in monitoring and evaluating students' knowledge, and in forming student-teacher relationships. relations, as well as in increasing the competitiveness and mobility of the teaching staff.

Interactive presentation tools include «Microsoft Power Point», «Prezi».

Microsoft Power Point is a presentation preparation and presentation viewer that is part of Microsoft Office and is available in editions for Microsoft Windows and mac OS operating systems, as well as for the abundant Android and IOS platforms. Materials prepared with owerPoint are designed to be displayed on a large screen - through a projector or large TV screen. Microsoft Power Point allows you to work on shared projects, provides access to all standard Office features, Power Point templates for creating documents in 40 different categories with real-time co-editing capabilities right in the browser.

Saving a presentation as an animated GIF-file makes it possible to demonstrate educational material on different devices with all special effects preserved.

Prezi is a cloud-based presentation software and storytelling tool for presenting ideas on a virtual canvas. The word prez - this word means "short form of presentation."

The product uses a scalable user interface that allows users to zoom in and out of their presentation materials, display and navigate information in space.

Prezi was formally founded in 2009 by co-founders Adam Somlai-Fischer, Peter Halaksi and Peter Arwai. Prezi (or Prezi.com) was created with support from Kitchen Budapest and Magyar Telekom in 2008 to replace conventional slide presentations.

ZUI Prezi's online and offline editors use a common palette of tools to allow users to pan and zoom, as well as scale, rotate or edit an object.

The user places objects on the canvas and navigates between videos, images, texts, and other presentation media. Frames allow presentational media to be grouped together as a single presentation object. Paths are navigation sequences that link view objects for the purpose of structuring a linear view.

Prezi Desktop allows Prezi Pro or Edu Pro subscribers to work offline, create and save their presentations on their own Windows or Mac systems. Prezi Desktop Editor allows users to work on a presentation offline.

Prezi Collaborate is an interactive collaboration feature that allows up to ten people (co-located or geographically separated) to co-edit and share their presentations in real time. Users participate in the presentation at the same time, and each is visually represented in the presentation window by a small avatar. While Prez Meetings can be held at the same time, this is not the only option. Participants may be invited to edit the Prezi presentation later if they wish.

Prezip also offers templates for PreziU, with toolboxes and visuals for file presentations.

Digital pedagogy is carried out through e-learning. We consider the concept of "Digital learning" as a synonym for "e-learning" and the concepts of e-learning.

### **Purpose of the study**

The purpose of the work is to explore the possibilities of using digital pedagogy and digital education in teaching the subject of pharmacology. Improving the control of knowledge, skills and abilities of students in teaching the subject "Pharmacology".

## **Materials and methods of research**

- 1) consider the theoretical and practical significance of digital literacy of the teacher and students;
- 2) to study and choose modern digital pedagogical technologies and tools for studying the subject "Pharmacology";
- 3) analyze the effectiveness of the use of digital education in the process of preparation, and conducting practical classes on topics of pharmacology.

## **The results of their discussion**

In the course of the research, the following results were obtained. It has been established that interactive teaching methods, unlike traditional ones, generally have a more effective effect on the process of assimilation of a complex of clinical knowledge. In addition, they clearly differed in the individual nature of the impact on the formation of well-known levels of knowledge. So, if traditional teaching methods influenced the development of mainly primary levels, then digital pedagogical technologies influenced their more advanced forms.

Classes conducted using digital pedagogy were characterized by high activity of participants, which is partly due to the condition of its conduct, which requires the indispensable participation of all members of the group. The ending of this educational game with the use of digital pedagogy acquired an interesting character, especially when the final pair of participants remained. At the same time, the possibilities of this type of technology in terms of improving individual levels of knowledge turned out to be far from equal. According to the results obtained, the interactive method of learning using digital pedagogy Prezi Collaborate contributed to the improvement of I (acquaintance) and II (copy) levels of knowledge. It did not particularly affect the formation of more advanced levels (III-skill and IV-creativity). The latter significantly limits the possibilities of using Prezi Collaborate digital technologies. To achieve the desired result, the choice of this digital technology should be differentiated, taking into account the specifics of a particular lesson. Since the level of mastered knowledge with the help of it, especially from the private section of the subject of pharmacology, may eventually turn out to be low.

Somewhat distinctive were the results obtained as a result of the use of digital technologies - iSpring QuizMaker. Parsing it, students actually get their hands on a ready-made solution that can be applied in other similar circumstances. As the number of analyzed options grows, the chance of using a ready-made decision scheme in one of the next situations with a similar character increases. Consequently, the skills of lightning-fast solution of more serious problems are formed. This interactive method of learning contributed to a significant increase in the level of both theoretical and practical knowledge of students. He contributed to the maximum understanding of the importance of the dialogue between the doctor and the patient and the improvement of the potential of clinical thinking, as well as the ability to timely use theoretical knowledge in one's own practice. It should be emphasized that the successful implementation of iSpring QuizMaker digital technology requires a sufficiently large amount of knowledge in fundamental medical disciplines.

It should be noted that the iSpring QuizMaker digital technology aroused great interest of all participants. The knowledge obtained with the help of this type of digital technology was much perfect and corresponded to - III (knowledge - skill), and even IV (knowledge - transformation) of its level. More than half of the participants in this method clearly formed elements of III (knowledge-skill), and the rest of the IV level (knowledge-creativity) of knowledge. At the same time, the bank of clinical knowledge was enriched much faster, which is an important and distinctive superiority of this method of teaching. There was another positive quality of iSpring QuizMaker digital technology. Among students, the frequency of students who have knowledge of other parallel disciplines has steadily increased, and most importantly, the quality of their perception has improved, which corresponds to the purpose and objectives of the subject of pharmacology.

Based on the conducted research, it can be concluded that digital learning methods: Prezi Collaborate and iSpring QuizMaker have different effects on the formation of individual levels of knowledge. So, if the first of them contributed to the predominant growth of I and II, then the second - III and IV levels of knowledge. Taking into account the latter, the choice of the educational game method should be carried out in accordance with the goals and objectives of each lesson. We consider it expedient to use Prezi Collaborate digital technology in the course of teaching general classes, and iSpring QuizMaker for a special part of the pharmacology subject.

In the circle of young pharmacologists, we held online meetings, online tests and online presentations, i.e. hybrid learning.

The limitless availability of images and video content, virtual reality and interactive sessions make the digital learning method more fun and convenient for students.

## Conclusions

By effectively organizing the use of interactive methods in the educational process, one can arouse interest and create conscious discipline in students.

Conducting practical and extracurricular activities with the help of digital pedagogy and digital laboratories helps students to retain their knowledge in a given subject for a long time and increases the student's interest in the subject.

Theoretical information on all topics of the subject should be presented in the form of an algorithm, multimedia, 3D video and audio lessons, to create the convenience of completing a set of tasks related to practical seminars.

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