

## METHODOLOGY OF USING INFORMATION AND COMMUNICATION TECHNOLOGIES IN TEACHING THE TOPIC "DIGESTIVE SYSTEM"

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**ABSTRACT:** The stages of developing students' analysis and synthesis, creative, cognitive thinking, convergent, divergent thinking, and professional competence in the learning process are improved based on web-based electronic learning resources and mobile applications, the use of modern and visual educational technologies that allow for the effective use of learning time, and the development and introduction of innovative educational technologies. It is about innovative methods. The methodology of using software, creating reflective tasks and practical assignments in accordance with adaptive stages in the lesson process, and applying project methods in the lesson process is recommended.

**Keywords:** Innovative project methods such as software, information literacy, visual displays, cloud platforms, LearningApp, Kahoot, Wordwall, Educaply, WebQuest, Gamification, M-Learning, Pre-Voicing.

### МЕТОДИКА ИСПОЛЬЗОВАНИЯ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ В ПРЕПОДАВАНИИ ТЕМЫ «ПИЩЕВАРИТЕЛЬНАЯ СИСТЕМА».

**АННОТАЦИЯ:** Усовершенствованы этапы развития у учащихся анализа и синтеза, творческого, когнитивного мышления, конвергентного, дивергентного мышления, профессиональной компетентности в процессе обучения на основе веб-электронных образовательных ресурсов и мобильных приложений, использования современных и наглядных образовательных технологий, позволяющих эффективно использовать учебное время, разработки и внедрения инновационных образовательных технологий. Речь идет об инновационных методах. Рекомендована методика использования программного обеспечения, создания рефлексивных заданий и практических заданий в соответствии с адаптивными этапами в процессе урока, применения проектных методов в процессе урока.

**Ключевые слова:** Программное обеспечение, информационная грамотность, визуальные отображения, облачные платформы, инновационные методы проектов, такие как Learningapp, Kahoot, Wordwall, Educaply, WebQuest, Gamification, M-Learning, Pre-Voicing

### “OVQAT HAZM QILISH SISTEMASI” MAVZUSINI O‘QITISHDA AXBOROT- KOMMUNIKATSION TEXNOLOGIYALARDAN FOYDALANISH METODIKASI.

**ANNOTATSIYA:** O‘quv jarayonida o‘quvchilarning tahlil va sintez qilish, kreativ, kognitiv fikrlashini va konvergent, divergent tafakkurini rivojlantirish hamda kasbiy kompetentligini rivojlantirish bosqichlari vebga moslashtirilgan elektron ta’lim resurslar, mobil ilovalar asosida takomillashtirish, o‘quv vaqtidan samarali foydalanish imkonini beradigan zamonaviy va vizual ta’lim texnologiyalaridan foydalanishni va innovatsion ta’lim texnologiyalarini ishlab chiqish hamda joriy etish bilan bog‘liq bo‘lgan ta’lim berishning innovatsion metodlari haqida so‘z boradi. Dasturiy

ta'minotlardan foydalanish, dars jarayonida adaptiv bosqichlarga muvofiq reflektiv vazifalar, amaliy topshiriqlar yaratish, loyihaviy metodlarni dars jarayonida qo'llash metodikasi tavsia etiladi.

**Kalit so'zlar:** Dasturiy ta'minot, axborot savodxonlik, vizual stendlar, bulutli platformalar, Learningapp, Kahoot, Wordwall, Educaplay, WebQuest, Geymifikatsiya, M-Learning, Pre-Vodcasting kabi innovatsion loyihaviy metodlar.

## INTRODUCTION

As a result of the rapid development of science and society, as well as the active application of information and communication technologies in various fields, people's lifestyles are changing dramatically. It is no secret that today information is rapidly becoming the driving force of society and the state. Modern information and communication technologies, which allow the collection, storage, processing and transmission of information, are considered one of the most important factors of competitiveness in the labor market, as well as a means of ensuring the optimal management of all spheres of human activity. One of the main advantages of information technologies is the ability to increase the activity of students. Using digital tools such as online learning platforms, social media, and mobile apps, students and teachers can be motivated and create interactive and engaging learning experiences that can be used in a variety of settings. Information technology also allows for the use of new teaching methods such as games and virtual reality. These methods can be used to create an interactive learning experience that makes it easier for students to understand complex concepts and theories.

In teaching the subject of "Digestive System" in biology, through the use of multimedia, presentations, visual displays, software tools, and game exercises, learning is carefully planned, and high-quality organizational and methodological solutions are found. In this case, the teacher is no longer the main "transmitter" of the lesson process, but rather acts as a consultant, assistant and guide.

## THE IMPORTANCE OF USING ICT PROGRAMS IN THE EDUCATIONAL SYSTEM:

In our time, education is unimaginable without information technologies, which is why we all began to use the term "new pedagogical technologies". For example, the personal computer has completely changed the possibilities of education. The Internet and laptops have created even greater opportunities for the introduction of new pedagogical technologies into the education system. In the conditions of Uzbekistan's independence, the reform of the education system is primarily associated with the introduction of advanced information technologies into the education and upbringing system.

The use of information and communication technologies in biology education provides the following opportunities: the use of multimedia capabilities in biology education; significantly expands the learning environment, makes the learning process more interesting and enjoyable; working with a virtual laboratory helps students acquire practical skills; lessons organized using software tools have a significant impact on the intellectual development of students. The reason is that they learn to independently consider natural objects and form an imagination based on the teacher's instructions. They form the basis of biological concepts and the ability to apply them in practice. It is worth noting that the methodological use of information and communication technologies in teaching the subject "Digestive System" also has a certain classification. One of the important conditions for increasing the

effectiveness of teaching the subject is the rational use of various visual aids, which plays a special role in better assimilation of information, improving the quality and consolidation of knowledge.

The relevance of the use of information technologies in teaching biology is explained by the fact that with the help of computer technologies, students have the opportunity to implement the learning process at a new qualitative level. These technologies can also create opportunities for learners to demonstrate their personal capabilities and abilities.

USING ACT PROGRAMS IN TEACHING THE SUBJECT “DIGESTIVE SYSTEM”. LEARNINGAPPS is a constructor designed to create interactive tasks, which allows its users to create more than 30 types of tasks. Using these multimedia interactive tasks in lessons will help to achieve the goals of the educational process more effectively. Because in this way, the student revises and consolidates the knowledge he has acquired, and through logical thinking, the learning material is ensured to be remembered for a long time.

To create an assignment on the LearningApps website, you must first create an account. To do this, you must enter your email address and password.

From here, if you go to the All Exercises section, you will see a collection of exercises created by other users in different languages and with different levels of difficulty across disciplines:

From this section, you can select or create a collection of exercises on the topic of “Digestive System”.

KAHOOT- Today, the use of various educational technologies, including mobile applications, to effectively organize the learning process is becoming increasingly widespread. One such educational technology is the Kahoot platform, the creators of which have also developed a mobile application. The platform helps to develop students in all aspects, increase their interest in learning, and also optimize the work of the teacher. The Kahoot program can be used as a tool for quickly and easily creating quizzes, tests, assignments, surveys, and discussions that assess students' knowledge and skills during the lesson. To increase competition among students during the lesson, a timer is set for the questions, that is, a time limit. To start a quiz created with the help of the program, the teacher presents the students with a code generated by the system, which the students enter into the electronic board or their devices (tablet, smartphone, computer). The "Kahoot" program has a number of interesting features to motivate students and interest them in the lesson. For example, music. When a question appears on the screen, the teacher plays music to remind students that they have a limited time to answer. Students can earn points based on how quickly they answer the questions. In addition, the Kahoot app has a large library of public tests that are open to everyone. Students can use these tests independently.

To create interactive tasks on the platform, click the “Create” button.

All assignments created by the author are stored in the library of his account, they can be used repeatedly. A report on the results of each class and student is also stored in the "Reports" section. It provides a summary of the student's performance in the lessons.

**PROGRAMS THAT CAN BE USED TO ASSESS STUDENTS DURING THE LESSON:**

PLICKERS - a program that allows you to instantly review the answers of the entire class and simplify the collection of statistics. The efficiency of working with the class (parents, audience of listeners), mobile applications is very high and this process takes only a few minutes. The advantage of this program is that the teacher tests the knowledge of students, and students do not need smartphones or computers.

Convenience of Plickers technology:

For the teacher –

Time saving is achieved. –

The teacher does not need to check and evaluate each student's notebook.

For the teacher and the student

- The group and individual mastery of the students will be known within a few minutes.

- Students will not be able to copy from their peers.

CONCLUSION

In conclusion, it should be said that the relevance of the principle of information is explained by several factors. From the point of view of informatics, a science that studies the principles and laws of searching, collecting, storing, processing, transforming, distributing and using information, we can compare voluntary pedagogical technology with information technology, since it has a source (teacher) and a receiver of information (learner). The use of new information technologies in the educational process has radically changed the evaluation system, which until recently was measured only by the ability of teachers to quickly convey information to students. Today, a teacher's knowledge is determined not only by his communication skills, but also by his ability to use a computer as a source of information. From this point of view, the formation of the teacher's analytical, projective and prognostic abilities aimed at assessing the quality of educational electronic resources and the effectiveness of their use in the educational process is very important. The scientificity and ease of presentation of information presented in educational electronic resources, the convenience of learning for the student, etc. should be evaluated in the light of general didactic principles. The use of modern information and pedagogical technologies in education develops the student's ability to hear, see, think independently based on what he sees, curiosity, morality, creativity, communication, and aesthetic abilities.

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