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SOME ISSUES OF USING INTERACTIVE TASKS IN TEACHING INFORMATICS AND INFORMATION TECHNOLOGIES

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Abstract
This article discusses platforms for creating interactive tasks and some issues of their use in teaching Informatics and Information Technologies in academic lyceums.

Keywords: Interactive task, educational resource, interactive learning platforms, digital technology, web technology, recognition, matching, application, comparison, description, use, creation.

Ushbu maqolada akademik litseylarda Informatika va axborot texnologiyalari fanini oʻqitishda interaktiv topshiriqlar yaratish platformalari va ulardan foydalanishning ba’zi masalalari haqida soʻz yuritiladi.

Tayanch soʻzlar: interaktiv topshiriq, ta’limiy resurs, interaktiv oʻquv platformalari, raqamli texnologiya, web-texnologiya, tanib olish, juftini topish, qoʻllash, taqqoslash, tavsiflash, foydalanish, yaratish.

В данной статье рассматриваются платформы для создания интерактивных заданий и некоторые вопросы их использования в преподавании информатики и информационных технологий в академических лицеях.

Ключевые слова: интерактивное задание, образовательный ресурс, интерактивные обучающие платформы, цифровые технологии, веб-технологии, распознавание, сопоставление, применение, сравнение, описание, использование, создание.

Introduction

The processes of reforming the education system are also clearly manifested in the higher education system. It requires the continuous introduction of new pedagogical and innovative technologies, including digital technologies, in the teaching process in order to improve the quality of education. It is very important that the application of advanced foreign experience in ensuring the quality of higher education remains one of the priority tasks. The penetration of modern information and communication technologies into everyday life is developing a field of activity related to the introduction and continuous improvement of electronic information educational resources, video and

audio lessons, electronic tests, virtual laboratory works, and small educational resources — that is, self-teaching technologies.

The Decree of the President of the Republic of Uzbekistan No. PF-5847 dated October 8, 2019 set tasks such as accelerating the creation of national electronic educational resources, organizing the translation of foreign electronic educational resources, gradually increasing the share of electronic resources in the educational process, and creating electronic educational literature. The State Program of the Republic of Uzbekistan also defines tasks such as fundamentally improving the quality of teaching at higher educational institutions in our country through the wide introduction of new information-communication and pedagogical technologies, electronic textbooks, and multimedia tools into the educational process, strengthening the educational-laboratory base of educational institutions with modern educational and laboratory equipment, computer technology, and further developing digital and broadband telecommunication communication means and the Internet system. Numerous studies have been carried out both in our country and worldwide to accomplish these tasks. For example, as a number of researchers point out — in particular, Замолоцких Е.Г., Лях Ю.А., Хачатурова К.Р. — students' interest in the processes of informatization of society also affects the motivation for learning, which is becoming increasingly interactive for a number of reasons [1,2,3].

L.V. Gusarova uses the interactive educational platform "uchi.ru" in working with primary school students [4]. This platform allows primary school students to interactively study school subjects such as Russian and English, mathematics, and the world around them.

N.S. Khaytullayeva, in her works, improved the technologies for creating adaptive network educational resources for the course "Methods of Teaching Informatics" based on incorporating the Web 2.0/3.0 services Calameo, Cacoo, Zondle, QuestBase, Linoit, Stixy, Glogster, Learningapps, and Mindmeister [5].

Despite the abundance of research, there are many unresolved problems in certain educational levels or in specific subject areas related to the development and implementation of interactive resources. In particular, the issues of developing the necessary interactive tasks for teaching Informatics and Information Technologies in academic lyceums under the Ministry of Internal Affairs and using them in the educational process remain sluggish.

The capabilities of platforms [1] that allow creating and using interactive tasks (Wordwall, Genially, Yandex.Textbook, Mobile Electronic School, Calameo, Cacoo, Zondle, QuestBase, Linoit, Stixy, Glogster, Learningapps and Mindmeister, Russian Electronic School) in the educational process were studied, and their possibilities for use in teaching Informatics and Information Technologies in academic lyceums were analyzed. The specific features of using them in teaching the subject were examined.

In our view, interactive tasks of the "Find the Match" type help develop students' observation skills, attention, visual acuity, and the ability to match each object with meaningful text, images, videos, and audio — specifically this type of digital data — based on the student's knowledge.

The process of preparing such tasks is not very complicated either. For example, let us familiarize ourselves with the process of creating an interactive task of the "Find the Match" type on the Wordwall platform. When preparing interactive tasks on Informatics and Information Technologies, the type of digital data is selected for pairs based on the required content (Figure 1).

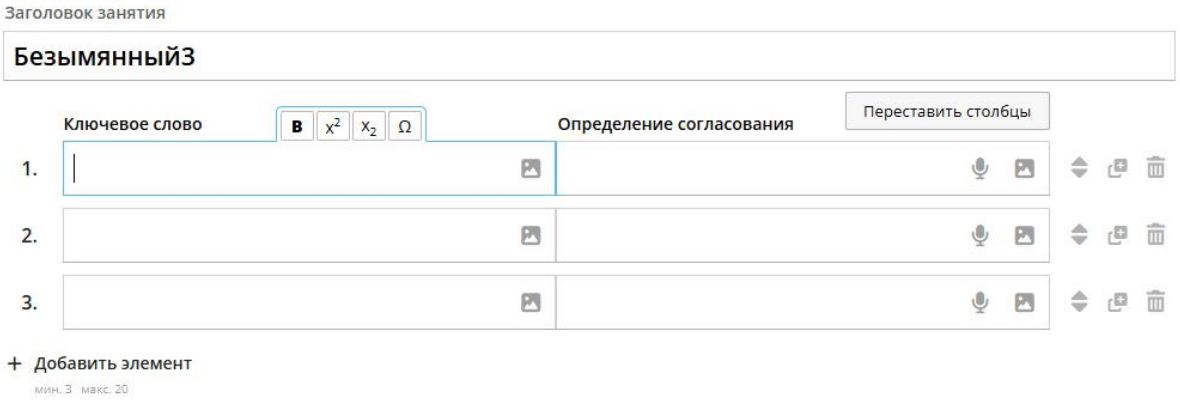

Figure 1. Window for selecting the type of digital data when forming a match

When text and image matches are selected for a task on the topic “Components of a Computer and Their Operating Principles” from the Informatics and Information Technologies subject, the following type of task appears. Here, the student must find the image of the device corresponding to the term name (device name) and connect them.

Figure 2. View of an interactive task of the “Find the Match” type

To try completing the interactive task shown in Figure 2, scan the QR code below with your mobile phone connected to the Internet. Regular use of the “Find the Match” task helps develop strong reading skills, improve speech development, and increase interest in studying the subject.

Such tasks help improve students' observation skills and significantly increase perseverance, which in turn enables the development of more flexible thinking. As a result of completing interactive tasks, learners are not limited to determining the level of knowledge, but are also given the opportunity to learn new knowledge, consolidate it, and teach the following:

Recognition	• enables identifying knowledge among thousands of pieces of information within a certain period of time.
Comparison	• helps to search for information and form a familiar understanding by comparing it with existing knowledge
Description	• it is the process of consciously finding an answer to the question: "How does it work and what are its distinctive features?"
Explaining Concepts	• it is the process of presenting complex scientific terms, abstract ideas, or theoretical rules in a clear, visual, and logical way for learners.
Justification	• develops the ability to logically, scientifically, and consistently justify why a particular answer was chosen.
Application	• improves the skill of applying knowledge in practice.

The use of interactive tasks is an integral part of modern education, which consists not of merely memorizing knowledge, but of understanding and being able to apply it in practice. The role of interactive methods in the process of comprehending knowledge can be seen through the following important aspects:

1. Transition from passive reception to active participation. In an ordinary lecture, a student simply listens to information. In interactive tasks, however, the student is compelled to search for information and compare it with existing knowledge.

2. Strengthening cognitive connections. Interactive tasks create new neural connections in the brain. The following help in recognizing knowledge: working with graphics and diagrams makes it easier to

visually perceive information; connecting new information with previous experience makes it possible to "recognize" it more quickly.

3. Speed of feedback (Feedback). In interactive tests or simulators, the student sees their mistake immediately. This "correct/incorrect" mechanism helps to sort knowledge and develop the skill of distinguishing (recognizing) the necessary information from others.

Improving the quality of education is always associated with the use of innovations such as the capabilities of digital technologies. In today's reality, socializing students with an information-oriented approach, developing skills of working with information, processing and analyzing its content, as well as effectively using information for personal and educational purposes is becoming increasingly important.

It helps students develop attention, visual memory, and logical thinking by finding identical elements and establishing connections between them. Due to the simple and clear principle of matching pairs, students learn to concentrate attention, match colors and patterns, and identify similarities and differences, which has a positive effect on cognitive development. The task cultivates perseverance, develops the ability to complete a task, and increases self-confidence when the child independently finds the correct solution. Visual stimuli are immediately transmitted to the brain for processing, prompting it to use various forms of perception and converting simple observation into understanding.

In conclusion, interactive tasks improve not just the skill of "storing knowledge in a database," but the mastery of selecting and using the appropriate answer element from thousands of pieces of information at the right time. Cognitive activity is stimulated, mental activity is activated, information is memorized on its own, associative memorization is formed, and motivation to study the topic increases. All of this is evidence of the effectiveness of learning through play, which is professional activity that has both study and work characteristics.

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