



ENHANCING THE EDUCATIONAL PROCESS THROUGH THE EFFECTIVE APPLICATION OF MODERN EDUCATIONAL AND DIDACTIC TOOLS

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Annotation. This annotation highlights the opportunities provided by modern educational and didactic tools in improving the educational process and improving learning outcomes. The use of interactive tools such as online simulations, games, and virtual reality experiences can increase engagement, and educational tools that include artificial intelligence and machine learning algorithms can personalize the learning experience. Online collaboration tools can promote teamwork and communication skills, and the Internet and digital resources can provide students with access to a wealth of information. Gamification and adaptive learning technologies can make learning more enjoyable and effective. Using these tools, educators can help their students develop the skills and knowledge they need to succeed in a rapidly changing world.

Key words: didactics, electronic resources, e-book, profession, educational method, software, component, interdisciplinary, interface, resource.

Аннотация. В данной аннотации освещаются возможности, предоставляемые современными учебно-дидактическими средствами в совершенствовании образовательного процесса и повышении результатов обучения. Использование интерактивных инструментов, таких как онлайн-моделирование, игры и опыт виртуальной реальности, может повысить вовлеченность, а образовательные инструменты, включающие алгоритмы



искусственного интеллекта и машинного обучения, могут персонализировать процесс обучения. Онлайн-инструменты для совместной работы могут способствовать командной работе и навыкам общения, а Интернет и цифровые ресурсы могут предоставить учащимся доступ к огромному объему информации. Геймификация и адаптивные образовательные технологии могут сделать обучение более увлекательным и эффективным. Использование данных средств позволяет педагогам способствовать формированию у обучающихся навыков и знаний, необходимых для успешной деятельности в условиях быстро меняющегося мира.

Ключевые слова: дидактика, электронные ресурсы, электронная книга, профессия, образовательный метод, программное обеспечение, компонент, междисциплинарный подход, интерфейс, ресурс.

The educational system is developing in harmony with the reforms and renewal processes taking place in our society at the initiative of the President of the Republic of Uzbekistan Sh. Mirziyoyev, attention was paid to the implementation of fundamental reforms in the field of education. Tasks in this regard were also noted in the President's address to the Oliy Majlis. In particular, it was noted that the goal is to turn Uzbekistan into a developed country, and we can achieve this only with rapid reforms, science and innovation. In particular, it was noted that the goal is to turn Uzbekistan into a developed country, and we can achieve this only with rapid reforms, science and innovation.

The President: "...For this, first of all, we need to educate the new generation of personnel who will be proactive reformers, who think strategically, and who will be educated and qualified. That is why we have started reforming all stages of education from kindergarten to higher education. [1] In order to increase the knowledge and level of not only young people, but also members of our society as a whole, first of all, knowledge and high spirituality are needed. Where there is no knowledge there will be backwardness, ignorance and, of course, going astray."



In this place, Sh.M. Mirziyoyev cited the opinions of Eastern sages, “The greatest wealth is intelligence and knowledge, the greatest inheritance is a good upbringing, and the greatest poverty is ignorance”, and therefore he created modern knowledge for everyone. He mentioned that becoming the owner of true enlightenment and high culture should become a continuous vital need. [2]

Currently, the rapid development of science and the daily change of technology, the rapid influx of information are important directions of organizing and conducting the analytical process using effective educational and didactic tools based on modern pedagogical and information technologies. These days, improving the quality of education through the effective use of modern educational and didactic materials, multimedia and media tools and electronic resources is one of the urgent tasks of teaching special subjects. As a result of the use of modern information technologies in the educational process, it is possible to master complex technologies in a short time and teach remotely through electronic training manuals and virtual stands. [3]

Today, the use of audio, video, telecommunication and information technologies developed on the basis of the latest achievements of science and technology, is gaining great importance in the field of education. Therefore, getting acquainted with their didactic capabilities and learning to use them in training will be a great help to future specialists in their future work.

Didactic tools can be familiar to us, found in our lives, or even used. Not all of them are necessarily educational tools. For instance, if we take television, it is a household technical tool used for recreation in our lives, but it is a mass media tool for propaganda work among the population. But we also use it widely in education. For example, it is used as a didactic tool in distance education.

On the other hand, each textbook should be autonomous to a certain extent, and on the other hand, it should meet the standards related to the content structure and information data formats. This, in turn, makes it possible to easily and quickly



assemble a set of necessary textbooks in an informational educational system (search system, examination system, etc.). If the electronic textbooks are of sufficient quality and has a system for controlling the content, learning process and checking the acquired knowledge, it can satisfy the existing need to some extent. In practice, e-books are used more and more, which contain a set of programs that allow the learner to choose the method of learning without specific restrictions. [4]

Teaching on the basis of modern educational and didactic tools has a positive effect on increasing students' learning opportunities, developing their independent work abilities and learning levels of practical skills. At the same time, the establishment of a new education system oriented towards entering the world informational and educational space requires a high level of knowledge and adaptation to any living conditions. This means that knowledge of not only one, but several foreign languages becomes one of the conditions of education, a factor affecting successful promotion in various fields of activity in a new post-industrial society.

Information and communication technology (ICT) is "a wide range of digital technologies used to create, transmit and disseminate information and provide services (computer equipment, software, telephone lines, cellular communications, e-mail, cellular and satellite technologies, wireless and cable communications, multimedia, and the Internet)."

The current stage of development of the information society involves the widespread use of information and communication technologies in education. And this is not just a trend of the time, it is an urgent need, as:

- IT contributes to the intensification of the education process, as it accelerates the transfer of knowledge from one person to another;
- The use of IT contributes to the quality of education people can gain the necessary knowledge during the whole life.



One of the possible ways is the use of information and communication technologies in the study of a foreign language in the lessons, which involves the use of Internet resources, training computer programs, electronic textbooks and manuals. The most commonly used in the educational process IT tools include:

- Electronic textbooks and manuals demonstrated using a computer and a multimedia projector;
- Electronic encyclopedias and reference books;
- Simulators and testing programs;
- Educational resources of the Internet;
- DVD and CD discs with pictures and illustrations;
- Video and audio equipment;
- Research and projects;
- Interactive whiteboard.

These IT tools create favorable opportunities for foreign language lessons for the organization of independent work of students. They can use computer technology to study individual topics, and for self-control of knowledge. For instance, Electronic textbooks allow you to solve such basic pedagogical problems as:

- initial familiarization with the subject, the development of its basic concepts and designs;
- basic training at different levels of depth and detail;
- development of abilities for certain types of activities;
- restoration of knowledge and skills.

Electronic textbooks, which are most widely used in the educational process, must include several organizational components. In order to implement the electronic textbooks in the educational system, it is necessary to have its own interface. An e-textbook or study guide will have a specific appearance – an “interface”. In turn, the main requirement for the interface is its intuitiveness.



Control elements of the interface should be convenient for the user, not distract him from working with the text or necessary content, and control elements used for pagination of the book should be on each of its pages.

Despite the fact that there are many types of e-books, hypertext forms. Currently, the most widely used e-books are resources in the form of hypertext. As a result of the organization of the modern educational process through the use of information technologies, it is possible to master complex technologies in a short time and teach remotely through electronic training manuals and virtual stands.

We use all kinds of educational information in the training conducted in the training room, not only with the oral method and explanations. These can be numerical and written, audio and visual, volumetric and moving, electronic and other forms. Based on this, if we learn the capabilities of each didactic tool, we will learn which task is more effective in how to use each of them. For this purpose, we should first familiarize ourselves with the classification of didactic tools.

Didactic tools are divided into three directions. These are didactic materials, didactic tools used for their use, and complexes designed to implement education using didactic materials and tools. There are their respective types for each direction. We call didactic materials all kinds of educational information that are given, demonstrated, performed and similar to students during training sessions. We divide them into separate groups depending on when and for what purpose we use them. We use didactic tools in the application and preparation of these materials. For example, posters, slides, photographs, audio, television and video materials based on information technology, etc. In turn, we classify tools according to their structure, principle of operation and didactic capabilities. Based on this, we use several types of didactic materials during training and for this we use appropriate didactic tools.

Electronic textbooks and manuals should be highly active in distance education. The electronic educational manual can be conditionally called an



electronic educational-methodological complex (EEUM). It includes the following blocks that are interconnected by content:

- organizational-methodical block;
- information and education block;
- data block;
- a block of practical exercises and assignments;
- output control block.

Current electronic textbooks consist of the following main elements [5]:

Texts. The main part of the electronic textbook consists of educational information, assignments, tests, comments, dictionaries, practical exercises, instructional materials.

Visual materials. Schemes depicting objects, processes, events in the electronic textbook can be depicted on the monitor screen in different colors. It is known that visual information is more acceptable than textual information. Images in the form of a graphic object are completely accepted in human memory and stored for a long time.

Sound tracking. Online education is an integral part of the publication. Processes with objects and events can be described with textual, noisy-signal, musical sound observation. It has a positive effect on the student's rapid assimilation of information at the same time.

Animation and videos. Presentation of objects, processes and events in the form of animation or video clips allows learning material to be quickly learned and memorized.

In the following years the creation of electronic training manuals and the development of electronic dictionary-informative materials developed rapidly. It is possible to distribute electronic educational publications via network. Another important aspect of electronic textbooks is that the educational material and visual materials in it do not wear out, do not rot and do not require a lot of space and volume



for storages. The volume of creation of electronic training manuals is significantly increasing compared to printed publications.

Depending on the above, the electronic textbooks should have a “slightly higher intelligence” than a regular (paper) textbook, because several aspects of the computer teacher’s activity (consulting when and where necessary, strengthen acquired knowledge help, etc.) is able to imitate. At the same time, it should fully cover the necessary (additional information) educational materials for the studied subject.

As a result of the research conducted by us, the possibilities of effective use of modern electronic educational resources in the educational process in the teaching of special subjects are studied, scientific recommendations are developed, and the methods of using electronic textbooks in the teaching of special subjects are developed and put practice.

The structure of a certain part of e-learning manuals from special subjects does not correspond to the requirements of professional pedagogy, independent work of students with textbooks, objective assessment of their knowledge and skills. One of the main ways to eliminate these shortcomings and solve existing problems is to create a single coordinated system of organizing and managing the process of creating modern educational and didactic tools for vocational education institutions, including special subjects among the types of education.

Organization of these works requires a lot of money. In order to solve the problem, a number of exemplary works were carried out to attract foreign investments to create a new generation of modern educational literature. In particular, within the framework of the Asian Development bank project, the creation of educational literature on special subjects for vocational colleges is being carried out on a large scale.

A modern generation of teaching manuals for special subjects is aimed at teaching students to acquire knowledge independently and apply it to practical



activities, and to develop positive skills, including a system of self-assessment of their own knowledge.

A modern textbook should have the following qualities:

- encourage students to be active and think critically;
- not limited to providing only theoretical information;
- giving practical training, projects, exercises and tasks;
- availability of tests for the student to assess his knowledge;
- enables independent education;
- educational material should be directed to specific goals and tasks [6].

In conclusion, we can say that information and communication technologies (ICT) accelerate the whole learning process, increase learner's motivation to learn a target language and the formation of individual, creative, cognitive abilities. It should be pointed out that the implementation of educational technology into language teaching process can be quite practical and handy which makes teachers enable to organize flexible, modern and effective classes. In addition, it helps every student boost their overall language skills through different kind of activities, videos, films, puzzles and exercises. However, it is demanded that the teacher be curious and arrange everything carefully according to the age, level of learners as well as the content of the course.

All in all, it is clearly evident that the utility of IT during teaching process can be an effective supplementary teaching aid.

References

- Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis, December 29, 2020.
- Mirziyoyev, Sh. (2016). We will build our great future together with our brave and noble people. Tashkent: "Uzbekistan" Publishing House, 488 p.
- Ahmedjanov, M. M., & To'xtayeva, Z. Sh. (2008). Didactic tools complex. Teaching manual. Tashkent: "Fan va texnologiyalar", 100 p.



- Muslimov, N. A. (2009). Methodological principles and technologies of creating electronic textbooks. Tashkent: “Ilm Ziyο” Publishing House, 194 p.
- Mavlonova, R. A., & Rahmonqulova, N. H. (2009). Integrated pedagogy of primary education. Tashkent: “Ilm Ziyο” Publishing House, 171 p.
- Azizxo‘jayeva, N. N. (2003). Pedagogical technology and pedagogical mastery. Tashkent: TDPU.