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*ПРОГРАММНЫЕ СРЕДСТВА ОБУЧЕНИЯ*

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*SOFTWARE TRAINING TOOLS*

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Аннотация. В статье авторы рассматривают программные средства обучения, которые могут быть использованы для эффективной организации учебного процесса в вузе. Эти программы применяются на разных этапах занятий. Авторы описывают средства обучения и преимущества их применения при конструировании различных видов занятий.

# Abstract. In the article, the authors consider software training tools that can be used for the effective organization of the educational process at the university. These programs are applied at different stages of classes. The authors describe the means of teaching and the advantages of their use in the design of various types of activities.

Ключевые слова: средства обучения, учебный процесс, конструктор, тест, опрос, учебная игра, самообучение.

Key words: learning tools, learning process, constructor, test, survey, educational game, self-study.

Our time puts before universities the task of improving the quality of education, solid mastery of the basics of science, ensuring a higher level of teaching. Universities are abandoning the traditional form of education, which does not take into account the individual abilities of each student. The renewal of education requires the creation of new textbooks and training programs, the development of new teaching methods. It is possible to raise the work of the university to a new level by creating conditions under which each student could fully master the established programs.

None of the teaching methods can do without learning tools. Thanks to them, you can significantly increase the efficiency of the educational process, implement the principle of clarity in practice, and facilitate the process of learning and understanding the information received.

Learning tools are a set of objects that can be used to organize a more effective learning process by teachers and students. Learning tools include materials and devices that can be used during the educational process, which allows you to increase the efficiency of the educational process and reduce the time to achieve the goals set for the participants of the educational process [1].

Learning tools guarantee the transfer of a more complete and accurate representation of the existing reality, make it easier for the student to understand, comprehend and remember facts and patterns, make visual and understandable phenomena and objects that are not available for observation in real life. With their help, students can develop their cognitive abilities. They are sources of knowledge and skills, simplify the process of mastering educational material, and stimulate cognitive activity.

When using training tools, it is necessary to take into account the age and psychological characteristics of students; an adequate choice of training tools. The means of teaching should harmoniously affect the emotions, consciousness and behavior of the student, and involve all the systems of perception. At the same time, it is also important to observe the rules of life safety during the use of training tools.

There are several significant factors that can be used to divide the teaching tools into separate groups according to the nature of the impact on the student:

* visual: slides, maps, layouts, visual aids, films;
* auditory: audio recordings;
* audio-visual: video recordings, ICT presentations.

In classes with students, you can use constructors such as GeoGebra, Quizizz.com, learningapps.org, kahoot.com etc. Let's look at some of them.

GeoGebra is a free cross-platform dynamic math program for all levels of education. This program includes geometry, algebra, tables, graphs, statistics, and arithmetic in one easy-to-use package. GeoGebra analyzes functions, solves problems, and builds graphs. You can use it to create drawings, solve geometry problems, develop animations, create 2D, 3D shapes, interactive videos, and then post them on the Internet.

The interface of the program GeoGebra resembles a blackboard, on which you can draw graphs, create geometric shapes, etc. In the program window, you can clearly see the changes being made. So, if you change the equation, the curve will be rearranged, the scale or its position in space will change. The equation of the curve will automatically be adjusted according to the new values.

Kahoot is a game-based learning platform. You can use it to create a test, a survey, an educational game, or a knowledge marathon. Players answer on their own devices, while questions are displayed on a shared screen.

With the help of Kahoot, students are engaged in self-study, you can diversify boring tests.

There are several modes in this platform.

In Flashcards mode, the student answers the question without having any answer options. To check the answer-just turns the card over. In this mode, the student needs to come up with the answer himself, based on the topic, and not choose from the suggested ones.

So the student thinks, not chooses. This mode is recommended for students for self-study, but it can be used as a lead-in of a new topic or as a quick check of the material of the previous lesson.

In Practice mode, each question has two to four possible answers. In the mode, there is no timer to select the correct answer, which allows more time to think.

At the end of the questions, the system offers to work out the errors immediately. The student can go back and continue, rather than retake the test.

But this platform has a different format-a question for the time being. The only difference from the Practice mode is the time limit for choosing the correct answer.

The next mode is Play mode. To do this, the platform has two modes — Challenge and Host live.

Challenge mode allows you to conduct a group competition in which participants see the results of their rivals.

Host Live mode allows you to play as a group in real time — this is a great option for lead-in and a good alternative to tests. Questions are shown on the host screen, and students connect and answer each on their phone. From the experience of working in this mode, it is preferable to take no more than 15 questions.

The functionality of the Quizizz web service is similar to Kahoot, but with some differences. First, you can schedule a quiz created in Quizizz. It can be offered as a homework assignment. Secondly, you can remove the "time" parameter, and then the student can think about the question without worrying about the running seconds.

All students receive the same tasks, but each of them will receive a random sequence of questions on their device and will work with the test at their own pace.

The student's display shows not only the answer symbols, but also the entire question with an image that can be enlarged if desired.

In the Quizizz service, the teacher has the opportunity to better manage the group, monitor the individual work of each student.

LearningApps is a completely free online service that allows you to create interactive exercises to test your knowledge. To create such exercises, the site offers several templates (classification exercises, multiple choice tests, etc.). The disadvantage is that there are no statistics with the results of the exercises, in fact, the tasks are performed for self-control.

Liveworksheets allows you to turn your traditional printed sheets (doc, pdf, jpg...) into interactive online exercises with self-correction, which are called "interactive sheets". Students can make worksheets online and send their answers to the teacher. This is good for students, as well as for the teacher-it saves time. In addition, interactive worksheets use new technologies used in education: these can include sounds, videos, drag-and-drop exercises, connecting with arrows, multiple choice, and even conversational exercises that students must perform with a microphone.

So, having studied the basics of constructors and using them, you can create the structure of a specific lesson in accordance with your goals. You can change the class constructor by eliminating unnecessary items and adding your own new ones. When using these constructors, the variety of classes increases significantly, they can be prepared much faster, and the teacher's creativity moves to a new, higher level. The use of software training tools improves the teaching process, increases its efficiency and quality.

Литература

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