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THE USE OF E-LEARNING SYSTEMS FOR KNOWLEDGE ASSESSMENT

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The article deals with modern electronic systems for knowledge assessment, their characteristics and possibilities of applying in the education system. The process of using systems in practice is described in detail, their main advantages and disadvantages are presented.

Introduction. In the age of widespread variety of information and technical resources, principles of knowledge control developed many decades ago are still often used. However, in recent years information systems have been developed. New systems are becoming increasingly popular and more suitable for the modern education system. One of the most common innovations is electronic testing which allows making a transition from paper to electronic learning systems.

Typically, e-learning systems are implemented in educational institutions for remote learning realization, but in recent years these systems have increasingly been used for classroom knowledge testing. These systems have a number of obvious advantages: mobility (portability), variability, ease for check, assessment impartiality.

Mobility (portability). Most knowledge control systems allow performing not only testing in computer rooms during lessons, but also extracurricular and regular testing. For example, an account for a student or learner can be created in systems such as x-TLS[1], INDIGO[2], Let's test[3] or USATIK (Universal system for automation of testing and control) [4, 5]. Access permission for entering the system is given to a student or learner. Next, a teacher uploads educational materials for preparing a test, creates the test based on these materials, and then makes the test available for students, sets the due date and time as well as the maximum number of attempts. Furthermore, in some systems a calendar allows to set not only due time, but also the time when the test will be available for students. Thus deferred testing is organized.

A possibility of setting the due time and the time the test is available allows students to carry out tasks in the most comfortable environment for them, in the most appropriate time. Since remote systems work around the clock, you can take the test in the early morning or in the late evening. In addition, students who have problems with health or other personal difficulties, may take a test on their home computers or even on their mobile phones at a the most convenient time. Among other things, if a student knows in advance when new tests are available and the due time, they become more organized. It helps to properly allocate their time for study and for leisure, and also students can prepare for testing better and without haste.

A possibility to set the number of attempts for passing a test does not exist in every system, but it is very useful. Thus, student can try to pass the test again after revising the studied material, if the test result was bad. Firstly, weak students can get at least minimum positive score. Secondly, it encourages students to re-read the new and revise previously learned material. And thirdly, in this case there is no need for a teacher to make additional setting for the students who failed the test, because afterwards they will be able to pass the test once again.

In addition to these systems, there are also programmes for carrying out testing in computer rooms. Such programmes have a server with questions and computers for students, where they can pass a test (the connection between them is carried out via LAN), or for each test a separate module is generated, which is copied to the student's computers (modules are not linked to each other). These programmes include Iren [6], OpenTEST 2.0 [7] and MyTestXPro [8]. All of these programmes can only be used for classroom tests, which is not a big disadvantage, as these systems have all the advantages of automated testing systems, and implementation of knowledge control can take place in the classroom under the teacher's supervision.

Variability. As a general rule, tests comprise a set of standard questions, and preparing several variants of tasks is a very hard work. On the other hand, if all students have the same set of tasks the possibility of cheating and using cheat sheets increases, and with each new attempt the efficiency of passing a test reduces. After all, if students know what questions they answered correctly, they can simply repeat their answers, without thinking about the meaning of the question and not analyzing it. At the same time, if students know exactly what questions will be in the test, they focus on the educational material connected with these issues, and ignore other, often equally important issues. Because of this, often a small gaps in knowledge that can then become disastrous.

The solution for this problem is a property of automated knowledge testing systems, such as variability. The teacher creates a set of questions covering the whole subject area of the topic, and the system in turn, chooses from a given set of a specific number of questions and offers them to students at random to answer. This approach makes students learn all the theoretical material, provokes understanding of topics, rather than memorizing numbers of correct answers, and also ensures adequate assessment of students' real knowledge.

Ease for check. As a rule, checking test results is becoming quite a big challenge for a teacher. If a small number of people passes the test, checking out all the tests manually is not difficult, but if the group consists of 20-30 people, and the test contain at least 10-15 questions of different variants of tasks, checking all solutions becomes a very long and tiring process with a high percentage of errors on the part of the teacher, because eventually people get tired and their attention is scattered. In the case of automated knowledge control systems, correct answer to the question is checked automatically and the results of a test are available for the learner as well as for the teacher. Thanks to this system students can independently monitor progress of their knowledge on the subject and receive information about the tests which they have already passed. The systems operate automatically so failures in detecting errors are avoided, in contrast to manual checking.

Impartiality of assessment. Often, process of grading becomes quite a big problem for teachers. In the case of oral or written examination it is difficult to assess students' knowledge, in fact, there are many criteria for grading, and all of them should be used. Tests are a great solution to this problem. If a teacher has a sufficient set of tests on the topic and a well thought out system of evaluation of each question, then the only task is to properly distribute range of grading, and the system will place them automatically. Some systems allow you to put a different "value" of questions, such as: easy question - 1 point, medium - 2 points, complicated - 3 points.

The system also solves the problem of personal relationships influence between students and teachers on the result of examination. The system has no personal qualities and does not include third-party factors during assessment.

Conclusion. Considering the above material, it is possible to say that automated knowledge assessment system is very convenient and effective means for intermediate and final knowledge assessment. Their use greatly simplifies and accelerates the work of the teacher and, at the same time, encourages students to study in the most detailed and comprehensive way, it pushes them to further develop self-discipline and self-organization.

The only drawback of these systems is the lack of a creativity in checking tasks, such as drawings, compositions, writing, etc., but for this purpose special testing procedures are developed. There cannot be any clear sets of rules, because if creative tasks were evaluated by a system (even using neural networks) the results would be unpredictable.

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