THE ORGANIZATION OF THE TEST CONTROL OF STUDENTS' KNOWLEDGE IN A VIRTUAL LEARNING ENVIRONMENT MOODLE

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ABSTRACT

The present study aims to present the principals of Modular Object-Oriented Dynamic Learning Environment (MOODLE) and to discuss the possibilities of MOODLE virtual learning environment in the organization of the test control. It describes the development technology of test items, which includes the types of multiple-choice, alternative question, numeric question, computational, inserted question, compliance question, short answer and essay. It highlights the advantages of the organization of the test control in MOODLE: Objectivity, democracy, mass character and brevity. This paper identifies the possibilities of computer-based testing for instance its use in distance education as well as in full-time education setting. It should be noted the simple and convenient web-based interface as well as the fact that the design is built on a modular scheme and, if desired, can easily be changed. Students can edit personal records where the report on user entry to the system is available. The reasoning of the possibilities of organization of the test control of students' knowledge is discussed in MOODLE as a virtual learning environment. The methodological basis is the activity approach. The proposed forms and types of the control of students' knowledge in a virtual learning environment MOODLE are analytically valid. The findings and experience in the implementation of assessment tools can be used in institutions implementing e-learning in a virtual learning environment MOODLE.

Keywords: Environment MOODLE, Organization, Learning Outcomes, Students' Knowledge.

INTRODUCTION

Electronic educational resources are the basis of modern methods of organization of educational process and allow maximizing the mobility of its participants. Social media and web-based tools have been dramatically developed for establishing new efficient educational platforms (Asio & Khorasani, 2015; Khorasani & Almasifard, 2017). Currently, there are hundreds of programs for the preparation, organization and conduction of computer-based testing; there are many platforms for the organization of e-learning (Vaganova, 2015). Initially, electronic systems have appeared in the US and now are dramatically developing in Russia. One of successful example of these approaches is Modular Object-Oriented Dynamic Learning Environment or MOODLE. The first version of MOODLE has been developed by Martin Dugimas from Australia and put into operation in 2002. MOODLE is a free learning

management system. It is most often used during the pedagogical testing (Vaganova, 2016). While using this system, the teacher can create courses, supporting files, presentations, surveys, monitor the students' knowledge. An important advantage of computer-based testing is the high objectivity of control by allowing the automatic verification of the results.

MOODLE testing system allows the teacher to develop practically all currently known types of tests-in open and closed form, compliance tests and tests with a computational answer. Furthermore this environment allows using mathematical formulas, pictures and video content while preparing test items.

It should be noted that MOODLE has a more flexible mechanism for the creation of tests. Database that is being formed contains questions that are a part of the tests themselves. Described once the test task can be included in the composition of several different test materials. When a teacher alters some test question these changes will be immediately taken into account in all the tests containing this question (Vaganova, Kostyleva & Kostylev, 2016). MOODLE has extensive tools for creating tests.

Teacher develops and places on his discipline’s page the tests, wherein specifies in their parameters the dates, for the period of which students will be required to complete the task, state how much time is given to the student on one attempt and their total number. Teacher accordingly informs students about the content and testing time (Koldina, 2013). Then, after the completion of work the teacher learns the results on the page of his course.

Tool for creating and managing test questions is "Question Bank". With its help you can create new questions, edit, compose questions in the test, import external questions, export, create different categories of questions. Access to a bank of questions can be found in the unit "Settings", go to the item "Question Bank/sub-item Questions" and use the editing interface of the test question.

MOODLE has divided concepts of "test", "question bank" and "test item." The question bank contains all the questions of this course. The Bank will allow competently arrange them in a certain structure and provide management of a variety of questions, giving access to the questions from the published categories of other courses. The test is also an element, which is connected directly to the student's work; it consists of a specific set of tasks.

Tests in the question bank can be divided into groups. They are called categories. The categories have questions placed just like files are placed in folders. Categories are arranged hierarchically in its structure. One category includes the other. For example, certain categories include questions of controlling the knowledge of any subject section.

While carrying out activities to create a test the teacher can at any stage of his work see the way certain test questions look by clicking on the tab "Preview".

MOODLE provides the introduction of an evaluation scale; the teacher can set it to adjust test items after the test has been completed by students. It should be noted that the system has a special mechanism that enables a semi-automatic recalculation of the results. There is also a flexible test setup system. Every teacher can use it as required by the specific tasks of his discipline. For this at first the base is being formed comprising the test questions and then these test questions are included in the test.

When configuring the tests there’s an opportunity provided to establish the selection of a question from any category "randomly." In this case, the learner, each time is given the test, consisting of a different set of questions. This technique can reduce the number of students’ "cheating" and helps to ensure a more objective knowledge assessment. Those who hope to pass the test by a simple memorization, have lesser chances, the more questions a category will

contain. If the test configuration has a set random order (choice) of answers-the answers will always be mixed randomly in the implementation of each attempt to pass it. Thus, the MOODLE features can offer students to perform the time-terminated test, limiting the number of attempts and with a random set of questions, thereby complicating the task for students (Chaikina, 2016; Kutepova, 2014).

Let's consider the types of test questions. These include:

1. Multiple choice (closed type question). Student is given a question and several answer options, one should choose the ones that he considers right or wrong, depending on the wording of the question;
2. Alternative question (yes/no). 2 options are proposed for the answer to the question.
3. Numerical question. Any number will be the answer to it. The answer has to be introduced with certain accuracy by the teacher, wherein one or more measurement units may be specified.
4. Computational-will allow creating numerical questions individually for each student. Used with the application of templates, which are replaced by random or by a predetermined values when the student performs this test task.
5. Inserted questions. It is a flexible element of the structure, which helps the teacher to randomly create test questions, for which is necessary to insert the field for the answers such as multiple choice, short answer, numeric question.
6. Compliance question. The list of questions and answers to them is set. We need to find a correspondence between question and answer. Sometimes there is a random question for compliance. It differs in that the data for it is collected "randomly" and not by a teacher and is borrowed from existing in a particular category questions of "short answer" type. That is, the question doesn't include educational information; it only allows presenting the material to the student in a different form, a more digestible.
7. Short answer. This is a test question, which is available to the student in an open form. The answer will be a word or short phrase which the student types in the field himself. Answers can be both completely correct and partially correct. Response text may be sensitive or not case sensitive (i.e. it can respond to the uppercase and lowercase letters).
8. Essays. A short essay serves as an answer. Assessed by teacher manually: Test-tab "Results"-point "Manual Assessment".

Teacher, in "Students' marks" section can see any information about the attempts to pass the test. This section contains information about the test execution time and the number of attempts, if the test is supposed to be performed several times.

MOODLE provides such a function as "to overestimate the marks." Its use provides marks purge after passing the test by students if some mistake was corrected, made a change that could affect the mark. For example, the teacher made a change in the designation of the correct answer or changed the maximum score for the test. The teacher can at any time recalculate marks for testing, while students' marks are stored in a database (Smirnova, 2015).

Let's define several advantages of MOODLE testing. Objectivity-a subjective attitude of the examiner is excluded. The result is processed by a computer and evaluation of the task can't be interrupted without adjusting specific setting. Democracy-is reflected in equal conditions of examinees. Mass character and brevity-is an opportunity to check the knowledge of a large number of people for a minimum period of time.

The special features of such testing include the following: It is used both in distance and at full-time education; it has a simple and user-friendly, in our view web-interface; design is presented in modular form and, if desired, can easily be changed, be adapted to the teacher; in turn, the students are free to edit their personal accounts, change photos, desirable details; have access to the full report on user entry into the system.

The following are the operations that can be performed in MOODLE with test questions:

1. Create: Using the menu "Create new question";

2. View;
3. Edit;
4. Delete: There is an icon for this purpose-link or the button "Delete";
5. Move to another category: Using the "Move to" button;
6. Import questions from file: There is a special sub-menu "Import" suggested for this.
7. Export questions into the file: Using the "Export" submenu.

CONCLUSION

MOODLE system for electronic testing organization has good tools for creating tests, quite simple and convenient both for the teacher and for the student. It should be noted the high quality of the created tasks. The system can be used by any student, it promotes mobility, since you can perform tasks remotely and the test results will be instantaneous. At the same time, while creating a test in the system, it must be considered several factors, for example, students, can easily study the test and answer all of its questions with absolute certainty, if a time limit or limit of number of attempts to pass is not set.

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