ИСПОЛЬЗОВАНИЕ СИСТЕМ ДИСТАНЦИОННОГО ОБУЧЕНИЯ В АСПЕКТЕ ПОВЫШЕНИЯ КАЧЕСТВА ОБРАЗОВАТЕЛЬНОГО ПРОЦЕССА: КЕЙС-ОБУЧЕНИЕ

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Описывается процесс организации непрерывного мониторинга деятельности студентов. Предлагается осуществление данного процесса с помощью системы дистанционного обучения (СДО). В качестве примера рассматривается СДО Moodle.

Kulikov G.G., Shilina M.A., Kulikova V.G. Course management systems application in the aspect of quality of educational process improvement: case study.
This paper describes a process of organization of students' performance continuous monitoring. It is suggested that this process should be implemented with the help of a course management system (CMS). As an example Moodle-based CMS are taken.

1. Introduction

Nowadays a significant proportion of attention is focused on the quality of education. An indicative factor of an education improvement is the perfection of the students' performance monitoring system. The latter can be accomplished through automation on the basis of web-portal technologies.

In this paper the analysis of the process of students' performance monitoring will be conducted. We will analyze 2 CMS in order to define, how these systems can influence students' performance. We propose CMS Moodle to serve as an instrument for the development of an information system for students' performance monitoring.

2. Review of the present students' monitoring system

Generally the process of monitoring as a term refers to the systematic collection of information and its processing. This information can be used to improve the decision-making process directly and indirectly as a feedback tool.

Particularly, a monitoring of the students' performance can be considered as a type of monitoring in the educational process. Selected forms of this monitoring type are shown on the fig. 1.
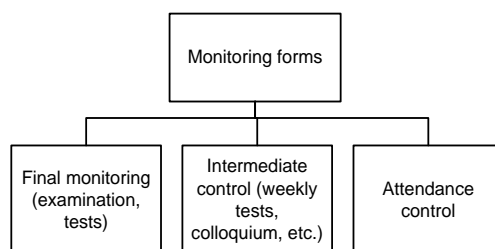

Fig. 1. Selected forms of the students' performance monitoring

An existing Russian university monitoring system along with its virtues can be characterized by a number of disadvantages:

1) Educational process is continuous; examination is taken discretely with 1 term step-interval. This type of monitoring organization is rather strict and it can cause difficulties in the regulation process, for example in the case when a student fails an examination. Besides, the obtained results do not always assess a true knowledge (owing to some psychological factors). This form of monitoring seems to be ineffective because of the lack of feedback. Intermediate (boundary) control is not obligatory in the most of disciplines and is rather laborious.

2) Time resource allocation also seems not to be effective, because a teacher spends a lot of time checking and analyzing examination results, completing and submitting various forms of documentation such as examination sheets and reports. It is rather inconvenient to carry out the analysis of examination results, due to the multi staged documents filling and submission process, i.e. records have to be presented on separate forms.

3) Teacher subjectivity must not be excluded.

Therefore, it is more appropriate to run students' performance monitoring in the education process tempo. This means that every aspect of students' learning activities would be tracked and registered (studies attendance, intermediate control results, and examinations). It seems to be reasonable to carry out monitoring several times a year upon the completion of definitive course block. Monitoring process can be shaped in a form of the test to facilitate students' knowledge control. Testing results can serve as a feedback tool. It is crucial to store the data collected "centrally" in order to advance the analysis and decision-making process. Here the modern Course Management Systems (CMS) can be helpful. In current paper CMS Moodle resources for students' performance monitoring and analysis will be examined.

3. CMS Moodle resources for the student's performance monitoring

Moodle is an open source Course Management System (CMS) that universities, colleges, schools, businesses, and even individual instructors use to add web technology to their courses. More than 30,000 educational organizations around the world currently use Moodle to deliver online courses and to supplement traditional face-to-face courses. Moodle is available for free on the Web [2], so anyone can download and install it [1].

Moodle appears to be a good option for the students' performance monitoring. Most of the course elements (lessons, quizzes, glossaries, wikis, etc.) can be graded. All marks are accumulated in one journal that contains convenient tools for the analysis, reports generation, grades import and export. Every teacher has an opportunity to create his/ her own grading scale that is very useful for criterion assessment of the students' performance.

One of the most important features of Moodle is a capability to trace every activity of users. Teacher can see course total statistics and also detailed information in the context of every course element. These statistics are available in different ways for every course participant. For example, the student will see only his own grades; the teacher will be able to make monitoring for every student, group of the students, course, etc [4]. Fig. 2 illustrates the selected course reports types and their correlation. For example, the teacher can view activity report for the whole course, then select an activity (under this term a course element should be understood), examine participation report for selected course element in order to find out, how students participate in the course activity. After that it seems reasonable to look through user report, which will show all actions of the student in the course.

These statistics can be detailed for every course element (e.g. quiz).
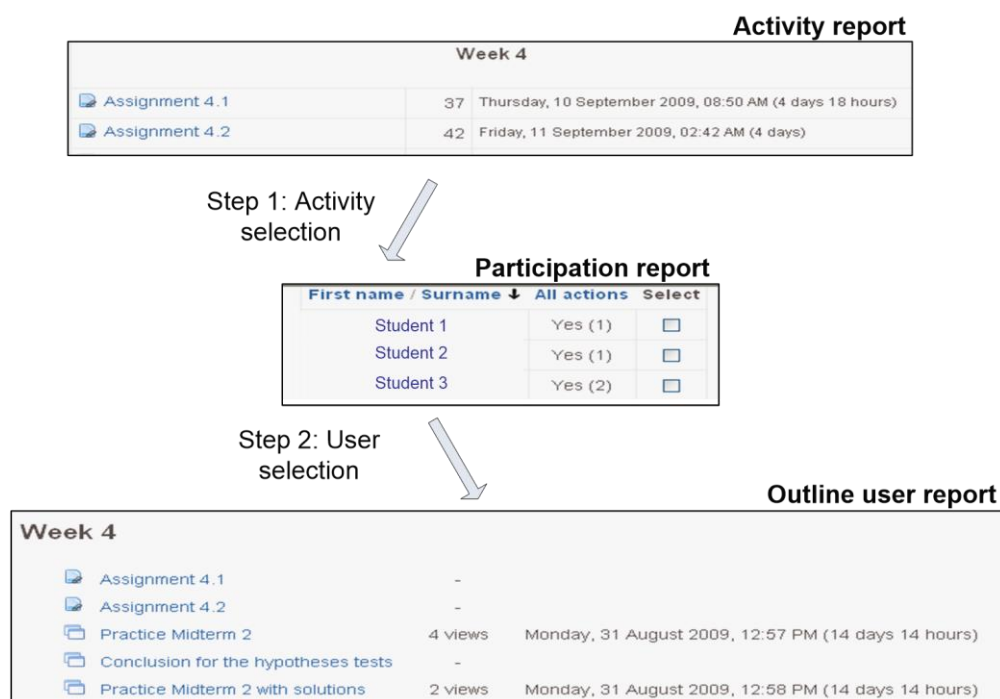
Fig. 2. Various report types and their correlation

These reports are partly available for every course participant. The student will see only his own grades; the teacher will be able to see the whole «picture» of the course.

Using the data described above, the teacher can control his students not only in the examination period, but also during the whole term. It is important that he can regulate the learning process with the help of forums, e-mails and other special tools. Here we can speak about feedback mechanism activation that is very important when we speak about the quality of the education.

4. Conclusion

In the process of this paper preparation 2 Moodle-based systems were examined: CMS of the University of California, Santa Barbara (UCSB) [3] and Testing system of the Automated Control and Management System of the Ufa State Aviation University [5].

To the advantages of these systems can be referred: flexible reports adjustment, user activities tracing, grading scale adjusted by the teacher, a possibility to create own reports and implement them into system.

It seems to be reasonable to conduct multidimensional analysis of statistical data provided by the systems. For this purpose, OLAP-cubes can be created.

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