

FEDERAL INTERNET-EXAM IN THE SPHERE OF HIGHER EDUCATION IN THE RUSSIAN FEDERATION

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Abstract

New tendencies in the development of higher education in modern society put a particular focus on the issues of quality evaluation of graduates' training.

The National Accreditation Agency developed a brand new technology of testing produced via Internet "Federal Internet-exam in the sphere of higher education". The primary aim of the Internet-exam is the implementation of mass testing technology which provides for diagnosis of students' basic level of training and its compliance with the requirements of State Educational Standards (SES).

The Internet-exam plays a considerable role in the integration of the Bologna principles as one of the main requirements for the institutional quality assurance is the demonstration of quality of students' training not only to the educational authorities but to the academic community, parents and employers. The Internet-exam is an effective mechanism which promotes openness and transparency of evaluation procedures and contributes to the creation of quality assurance systems within HEIs related to external independent review.

In our opinion this technology has an international perspective. Cooperation may be stimulated both in terms of mutual formulation of tasks on common sections of educational standards and in organizing testing among students aimed at revealing coordinated quality assessment criteria of specialists' training. The article also covers the case studies on participation of HEIs from the states of Commonwealth in the Internet-exam.

Introduction

Basic tendencies in the development of higher education in contemporary society put a particular focus on the issues of quality evaluation of graduates' training. The quality evaluation of graduates' training in higher education institutions in Russia in the process of their certification on the federal level of education management is held by Federal Supervision Service of education and science

(Rosobrnadzor). The process of certification for higher education establishment is held within its integral evaluation [1] and involves two stages – self evaluation of the university and its external evaluation. During self-evaluation the quality evaluation of students' training is done, as a rule, on the basis of the test results (evaluating educational measurements [2]), which demands from the university great effort to work out tests, to educate the personnel that capable of not only taking educational measurements, but also analyzing and interpreting them properly. However, these educational measurements are carried out on different kinds of tests and at different time so they make it impossible to compare the results with other universities, moreover they sometimes can't be compared with the main criterion – the State Educational Standards.

In such a case, the integrated federal data bank of measurement tests and the unified system of results' evaluation can help the universities in holding the self evaluation. This approach allows to implement two main principles of the evaluation procedure: openness and transparency; to get all academic community of the universities involved into the development, correcting and wide discussion of this process and may be, what is even more important nowadays, to provide for the main requirement i.e. the independence of the system both on the education authorities and the university itself. To eliminate the existing contradiction and to give centralized help to the education institutions National accreditation agency of education (NAA) offers the universities, carrying out self evaluation , to use Internet-Exam [3] to evaluate the quality of students' training in Humanities and Socio Economic disciplines, Mathematics and Natural Sciences and basic professional disciplines.

The principles of the Internet-Exam

The aim of the Internet-Exam implies that the students of the same educational program in different universities all over the country with the help of up-to-date computer technologies are evaluated according to the same evaluating educational measurements and at the same time. Internet-Exam is based on the following principles:

- The exam assumes the use of computer testing only and corresponding ICT.
- The universities participate in Internet-Exam *voluntarily* and schedule the volume of testing and its procedure (on-line or off-line).

- Full *credibility* to the universities in the way they organize and hold testing. The results are confidential for others and are sent only to the University for self-examination. This approach leads to benevolent relationship of the academic community to the procedure of testing.
- The exam is held *twice a year* all over the country (as a rule, before or during winter and summer examinations) and not only for the graduates, but also for second, third and fourth year students.
- The project is self financed.
- The centralized analysis of the results on the Internet server of the National Accreditation Agency of the Russian Federation allows to make an informational and analytical chart for each university [4], where they can find the analysis of the compliance with the educational standards and comparative analysis of the students' training level in the given university according to its curriculum with the similar curricula in other universities. For the first time there appeared the opportunity to compare students' training level in a particular educational curriculum of the university against all similar curricula in the country.
- Efficiency of holding and analyzing the exam (real-time operation mode). The universities get the initial information with the results in the form of rating list within a few minutes after the test completion. Integrated analytical report comes to the universities within a month after the exam.
- The interest of all participants:
 - students (self-testing);
 - teachers (analysis of «weak points» and, as a result, the correction of teaching methods);
 - governing body of the university (preparation for self evaluation and integral assessment; quality management of the specialists' training);
 - parents (does the university give all opportunities for students' learning the subjects up to The State Educational Standards);
 - the university on the whole (to avoid stressful situations during out-of-turn inspections);
 - employers, trustees council (the place the educational programs of the university take among All-Russian universities);

- Rosobrnadzor (the determination of Russian quality evaluation of training: mass coverage comparing with single inspections, benevolent relationship of the academic community).

The key point of the Internet-Exam is the use of specialized Evaluating Educational Measurement Tests (EEMT), which are made in such a way that they make it possible to test the students' level of learning in all topics (didactical units) of the discipline [2]. The content of the State Educational Standards on every subject for the whole range of educational curricula in higher education was analyzed in the process of the tests development. This resulted in fixing the invariant level of the subjects for different educational curricula on the basis of the studied didactical units list. It helped to put forward suggestions for improving the State Educational Standards.

Upon the results of the Internet-Exam, using EEMT, the university gets not only the report of the students' implementation of the State Educational Standards, but also the list of the didactical units which were not studied in the case of failure. Thus, the mass testing of students' comprehension level is held. Every student, group, curriculum; discipline or group of disciplines are tested. Such analysis enables the teachers, heads of the chairs, deans, university administration to modify the process of training (schedules and curricula etc.) to meet the State Educational Standards. The collected results' data of the Evaluating Educational Measurement Tests implementation among all one-field curricula, taking part in the exam, offer the governing body of the university essential (and independent!) material for testing quality training of all educational curricula with the view of particular subjects of every group of disciplines. On the other hand, the collected statistics of results of students' comprehension of the didactical units included into the State Educational Standards in the most universities all over the country will enable the creators of the third generation standards to make the necessary changes in the contents and the time length of subject study.

The Evaluating Educational Measurement Tests for computer testing are specially selected sets of close response tests. This approach made the process of Internet-Exam rather effective and relatively cheap. But, on the other hand, this exam solves only one problem – to evaluate the comprehension level of educational standards requirements (i.e. the minimum basic training level) and, therefore, can't

substitute the usual way of taking exams for the students. The experiment shows that the universities consider the Internet-Exam to be the addition to the usual exam.

Results and prospects of the Internet-Exam

In May, 2005 58 universities and their subsidiaries from 31 regions of the Russian Federation took part in the Internet-Exam, in December, 2005 there were already 179 universities and their subsidiaries from 51 regions. Since December, 2006 the number of educational institutions is over 1000. Thus in December, 2006 916 higher education institutions and 313 institutions of vocational training' from 82 regions took part in the exam as well as the universities and their subsidiaries from Kyrgyzstan, Belarus, Ukraine , Armenia, Kazakhstan, Moldavian Republic. 795161 test results were obtained. And in May, 2007 846549 test results were obtained.

The number of the subjects, chosen for the exam, increased from 4 in May, 2005 up to 53 in May, 2007. It is necessary to say that about 40% of the results were obtained on-line, that is the indirect evidence of the active introduction of contemporary information technologies in the universities.

In May 2007 new technology of selected multidisciplinary testing was introduced. Multidisciplinary testing offers simultaneous testing of the students in several disciplines of the same group of disciplines. Thus the opportunity of evaluating the implementation level both of certain subjects and group of subjects during one-time testing became possible.

Developing this technology is first of all aimed at assisting the universities in holding self evaluation before the integral evaluation procedure [1], Internet-Exam can become an essential part of institutional quality assurance. Its regularity will make it possible to realize the monitoring of students training quality and curricula compliance with the requirements of the State Educational Standards and their comparison with the similar curricula of other universities. Regular diagnostics (every six months) can lead to making necessary changes in the process of education.

Internet-Exam can be of special interest for introducing the Bologna principles, as one of the main requirements for the institutional quality assurance is the demonstration of students' training quality, and not only to the educational authorities but mostly to the academic community, parents and employers. If certain rules are observed the Internet-Exam can fulfill this task.

In the long term the Internet-Exam can solve other tasks, for example, offering the students the advanced level tasks. If the basic level defines only the compliance of the students' training quality with the requirements of the State Educational Standards (in terms of figure skaters – this is the “school”, before performing at higher level – in the optional program), then the advanced level means more complicated tasks. Only the students who pass the basic exam will be allowed to take this level. Institution educational centers, centers of professional accreditation and all concerned professional organizations must be involved in the organization of the exam for the second level and in the development of measurement tests. If the students pass this advanced level, they can be recommended to continue studying at Master's degree program and at post graduate course. This will help to choose really talented students and to make post graduate course more effective.

The technology of the Internet-Exam successfully functions at other stages of vocational education. In May and June 2006 the experiment of such kind was carried out in such subjects as «Mathematics» и «Information technology» for secondary vocational education curricula (SVE). 60 educational institutions of SVE and 13 higher education institutions, performing the SVE curricula took part in this experiment. At the next stages of the Internet-Exam the number of secondary vocational education institutions was about 300.

In our opinion, the Internet-Exam can have an international perspective. The cooperation can be both in the terms of interchange of the data tests on invariant units of the educational standards and in organizing testing among the students aimed at obtaining correlated quality assessment criteria of the specialists training.

Bibliography:

1. Gevorkyan E.N., Navodnov V.G., Motova G.N., Petropavlovsky M.V. The Integral Assessment of Higher Education Institutions. M. State accreditation center, 2003. – 176 p.
2. MaslennikovA.S., Saveljev B.A. The evaluation of students comprehension level aimed at certification of vocational education institution: Text book. – M.: Logos, 2003. – 136 p.
3. Navodnov V.G., MaslennikovA.S.. Internet-Exam in the Sphere of Vocational Education// Higher education in Russia. – 2006. - №4

4. Kiseleva V.P., Maslennikov A.S., Navodnov V.G. Methods for identifying students' level of training on the basis of attestation pedagogical measurement results.: Scientific edition – Yoshkar-Ola: National Accreditation Center, 2004. – 44 p.