

the multilevel specialists' training innovation educational programs based on the cross-disciplinary and instrumental technologies of competences formation in the academic process.

The SFU creation on the basis of the RSU, the win of the TRSTU in the national competition of higher professional education innovation programs, etc., testifies to the competitiveness of the Don universities at the national level, and in a range of directions (neurocomputers, bioengineering, and others) – at the international one. In connection with this it is necessary to support the innovation educational products' development and the new technologies' application in the academic and research processes. The development of scientific-academic-production infrastructure (student engineering departments, technoparks, scientific university laboratories, etc.) and educational innovations will provide the passage from the delivery of highly specialized knowledge to cross-disciplinary and complex one, that will result in the retuning of the university environment to the formation of necessary in the innovation economy competences (according to a complex analysis of changing social-economic processes, the skills of organization and running projects, effective search and analysis of different information, practical managerial skills, the ability to research work and practical use of the fundamental and applied research results).

A special attention should be paid to cross-disciplinary directions of specialists' training and retraining for working in the sphere of high technologies. It is important to attract youth to innovation management, to add the disciplines revealing the ways of transformation of the results of investigations into merchandise articles to all education programs of universities. The professional development and training in the sphere of economics and management is carried out at the SFU (faculties of economics, faculty of high technologies, higher business school), SRSTU (NPI), RSEU (RINE) and other universities.

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INTEGRATED INFORMATION SYSTEM OF CONTINUING PROFESSIONAL EDUCATION PROGRAM EXECUTION MONITORING

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The entry of Russia into Bologna process sets the problem of the continuing professional education work systematization measures carrying out: the continuing professional education (CPE) guidelines regis-

ter creation, the generalization of jurisdictional educational institutions' work results for the purpose of revelation of development trends of the specified activity direction and the process's dynamics correction in accord with the purposes of the realized higher professional education complex development programs.

The results of the work on the integrated monitoring system and information technologies development providing the organization and statistical observation of the Russian higher professional education institutions' faculty's advanced vocational training and realization of continuing professional education programs by them are considered below. The work's actuality is determined by the fact that nowadays the total faculty strength of all higher professional education institutions makes more than 220 thousand people; therefore in the advanced training system about 45000 places are distributed annually, that needs the creation of integrating information record, control and process optimization system. The most important purposeful problem of the specified information system is the computer-assisted creation and support of the integrated informative space in Russia in terms of continuing professional education.

In the system's development phase the analysis, the type definition of relevant information for federal data base forming-up and the unification of information flows structural units were carried out. Nine main statistical reporting forms were developed and the parameters determining the statistical reporting outputs were offered: the organization type, reporting form (advanced training form), fiscal year, variable parameters, etc.

In the next phase the automation processes' software support was developed:

- operational data collection from remote subjects;
- provided information monitoring;
- provision of operational statistical information;
- final reporting forms formation.

The information system bundled software is meant for the information accumulation unification and automation in the sphere of continuing professional education, and also for carrying out the monitoring for the purpose of coordination of extended institutions' and higher education institutions departments', implementing the continuing professional education programs, activities. The created software is designed for the formation of the integrated database on the sponsoring extended education activities institutions' work and the provision of the following functions support:

- information storage in the common distributed database with the information integrity procedures provision;
- accumulation, storage and maintenance of structured information records;

- database updating from work stations concurrently with regard to the data integrity maintenance.

The “client-server” model (Fig. 1), in which the process performed in the client’s part is restricted by representation functions and the applied functions are realized in the software component of the application server, is used at the development. In its turn, the application server is supported by the gateway of exchange with database server, by its information objects. They are stored directly in the database and are

performed on the computer-database server, where also the component functions, which controls the data access, i.e. the DBMS core. The “client-server” model advantage lies in the possibility of centralized, including the server-side remote administration, traffic reduction in the net; possibility of practically unrestricted SHC scaling and application entities absence in the client part, and therefore – no need of client-side renewal distribution.

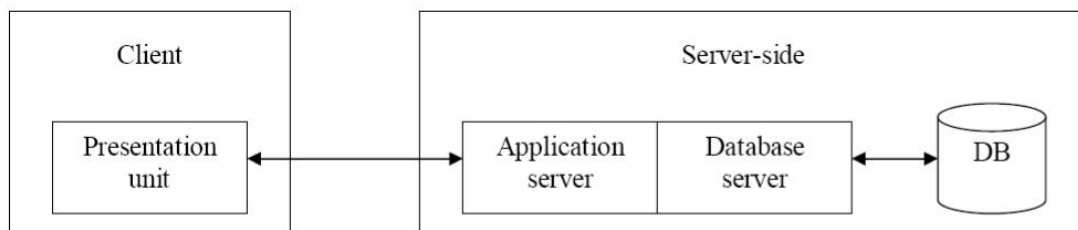


Figure 1. “Client-server” model

The software was created on the basis of the information system maximum work accessibility demands and operator’s position minimum requirements. The operator should possess the user-defined knowledge of work in WWW, the experience of WWW browser use and work with interactive Web-sites. The operator’s work with the program is possible within the framework of any Internet-link.

The possibility of carrying out the advanced training analysis by both higher professional education institutions and those of continuing professional education separately has been realized. The created information system allows analyzing the course of upgrading on different programs and projects, particularly on federal purpose-oriented programs, on the programs of Ministries and Agencies, international programs, etc. Besides, the information system allows analyzing the summarized information on all the programs of qualification upgrading integrally.

An important developed instrument of the monitoring is the operational statistical information enabling to evaluate the process and bring necessary corrections in. With the information system introduction a real opportunity to get and analyze the data from the organizations implementing the advanced training practically in real time will appear; it will be possible to put into effect the very operational control for the upgrading process.

Let us view briefly the variable parameters according to which one can get the statistical information. The following variable parameters types were chosen as the result of the carried out analysis:

- training trends;
- implications for different federal districts;
- listeners’ qualification;
- age categories;
- listeners’ occupational titles.

The information system enables to get the distribution of the listeners having passed the advanced training according to various training trends; federal districts; academic degrees and titles; age categories and official capacities. The created system enables to get and analyze 40 different distributions presented in the form of diagrams which can easily be shown as the corresponding tables. Their analysis allows providing the forecast of the most popular upgrading and the continuing education system development directions. The final data charts also enable to evaluate the efficiency of the professional advancement centers’ work by means of the findings and standards comparison.

In the course of the work execution necessary forms of intermediate and final statistical reporting were determined. The information about the performance of the tasks on the qualification and continuing professional education programs is presented in the form of enlarged direction groups or training specialty charts. At that, there is an opportunity to derive such charts separately for every region, city or the Russian Federation as a whole. All the information can be put in two tables integrating the data according to the specified levels. The data integration level can be given separately on the three levels: city, region and the Russian Federation as a whole. Besides the main output statistical forms the function of representation of complete information about the upgrading results and the extended education program carrying out separately on every institution reporting to the Education Federal Agency about its work in the specified direction was introduced into Federal Database maintenance application program.

The information about the extended education programs execution results is important enough for the analysis of the actual reeducation directions in the society and allows forecasting the most promising ones in the context of further development and main pro-

grams list change. The creation of educational activity monitoring information system in the sphere of the faculty's advanced training enables:

- to form the necessary output statistical reporting including the forecasting of the most popular directions and specializations;
- to create the instruments of professional advancement centers' work performance evaluation.

The solution of the above enumerated problems enabled to develop the innovation model of volume, training directions formation and work organization planning on scientific management and higher professional education institutions' faculties' reeducation and upgrading.

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**ADMINISTRATION PROBLEMS WITHIN
HIGHER PROFESSIONAL EDUCATION
SYSTEM AT INNOVATION ECONOMICS
MODEL FORMATION**

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During the latter decades specialists note a considerable rapprochement of developed nations' higher education systems with retaining of the features conditioned by the historical and socio-economic development and demographic situation. The integration of Russia into the world's educational space supposes the national educational system rapprochement with similar systems in other countries with retaining traditions and advantages of Russian Higher School.

Russia actively reforms the Higher Professional Education system, seeks for the most optimal ways, forms and technologies of its development. In December 2005 the "Federal Education Development Purpose-Oriented Program for 2006-2010" was approved by the Russian Federation Government Regulation. The Program provides the Russian educational system competitiveness enhancement relevance; the society development accelerated rate, the political and social choice empowerment; the transfer to the society of knowledge with a considerable expansion of intercultural cooperation. It is underlined in the Program that the native educational system is an important factor of preserving Russia in the row of leading countries of the world and its international image as the country possessing a high culture, science and education level.

The implementation of the denoted in the Program purposes and intents of the RF educational system development requires adequate actions aimed at the activity organization models change and higher educational institutions administration:

- the missions and strategies acceptance and development process initiation;
- the higher education institutions' innovative organization models development and higher institutions' managerial improvement;
- the present-day educational technologies mass introduction into the academic activity;
- the switching to a credit-module organization of higher professional education study programs and building a flexible system of the academic activity control;
- the education quality control implementation and development;
- the financial administration advanced models use;
- the academic activity control information-technology systems introduction;
- the higher institution new personnel management models' development and introduction;
- the educational marketing activity development in higher educational institutions.

The quoted list of innovations can be augmented proceeding from a concrete problem situation and the strategy accepted by the institution.

Serious problems in higher professional education of Russia should be considered as the result of its economic and social development in the context of the world's development. In our opinion, the following problems are referred to the number of such ones:

- the promotion of higher professional education importance in connection with the world's economy globalization and transfer of the leader-countries to the knowledge-based innovation economics;
- the severization of requirements to specialists' training quality within the higher professional education system and the gap elimination between the market demands and higher school graduates training content;
- the severization of requirements to the efficiency of scientific work results use for Russia's share increase in the world's joint intellectual product;
- the creation of innovation activity support mechanisms within the higher professional education system;
- the development of new academic knowledge model based on the applied context of knowledge, transdisciplinarity, education forms' organizational variety and social responsibility for the knowledge produced;
- the formation of a new strategic vision in higher professional educations management.

In conditions of the transfer to a postindustrial civilization, appearing the technology systems combining technological and social innovations into a socio-technical process, the highly qualified specialists' training problems are becoming priority-oriented. A high professional and educational level of specialists – is an important condition for the economy development innovation model formation. Of course, in the