

CHAPTER

Russian Universities in the Global World

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INTRODUCTION

Modern knowledge, economy and social development are creating a new, rapidly changing intellectual labour market. Institutes of higher education should constantly modify and upgrade educational programmes and technologies, update equipment and support lecturers' professional development. Institutes of higher education should react adequately to external environment challenges, switch to innovative development, follow the market and even create it in a number of cases.

Now, institutes of higher education in developed countries are being challenged by changes in the external environment, loss of former stability, reduction of government financing and, at the same time, prompt expansion of requirements from consumers wanting their primary activity products — scientific research, technological developments, educational services and qualified experts. In Russia the delayed stage of social and economic reforms intensifies these factors influencing the whole higher education system and every institute of higher education.

Experts note a significant asymmetry and imbalance of relations in institutes of higher education with the external environment which give rise to dissatisfaction of the institute of higher education with the organizational management and prompts demand for reforms.

Analysis of adaptation by leading US and Europe universities to the changes of social and economic conditions of external environment in the 1990s has shown that basic transformations of institutes of higher education were caused by changes in economic structure, in the role of the state and the

demographic situation, all connected to the development of technologies and the processes of globalization. Russian institutes of higher education are going the same way, with diminishing delay.

The changes in age groups, the ageing of populations in the world's developed countries, the internationalization of education, increase in academic mobility and expansion of need for continuous education, all lead to varying contingents of trainees entering institutes of higher education. This necessitates continuous perfection of programmes, professional development of lecturers, updating of teaching and methodical support and use of new teaching technologies.

The changes in technological development, in particular in the field of information and communication technologies, require the same. The wide application of new high-level technologies in modern production necessitates intensive fundamental scientific research in the institutes of higher education, performance of applied developments and the organization of technology transfer and use of the newest results for the educational process.

Economic globalization intensifies the specified changes in the external environment of the institutes of higher education as factors influencing their behaviour. Emerging global markets of high-technology products, intellectual labour and educational services create new competition conditions for universities, stimulating them to change the organizational management with a greater focus on the needs of people and society, under conditions of adherence to state interests.

The results of monitoring and inspection of the higher professional education system in Russia show that the processes of transformations connected to changes in the external environment can also be observed in Russia's institutes of higher education.

The institute of higher education is continuously interacting with its environment — it communicates, studies society's needs, obtains financing, attracts resources, develops cooperation, gains experience, delivers products, renders services and so forth. In order to hold and consolidate the position of the institute of higher education in the external environment, this interaction should be more and more active, intensive and effective.

In order to gain the competitive advantage in modern markets for intellectual labour and educational services, institutes of higher education should make certain changes which could result in reforms of the institutes themselves and even in a new type of institution of higher education — the innovative, academic university.

All this can be achieved by the modernization of the organizational management system of the institute of higher education as a whole, with the introduction of market mechanisms and the direction of its efforts to ensure that society's needs are met.

In recent years, Russia has confidently taken its place in the global economic environment. Owing to high prices for energy resources, the country has been able not only to pay off its debts — the “legacy” of the Soviet Union — ahead of time, but also to set up the stabilisation fund and the national projects system. One of the top-priority national projects is the “Education” project. A significant part of this project is devoted to the creation of a system of innovative development for Russian universities. The competitive system of prioritizing financial support of the best universities proved to match the global tendencies of development in higher education.

INNOVATIVE RUSSIAN UNIVERSITIES

The first step in this direction was made by the special competition in the scope of the national “Education” project of the leading innovative universities in the Russian Federation in 2006. There were two levels of competition. On the first level, 17 universities were winners, and, on the second level, 40 universities were winners from different regions of Russia. These 57 universities represented the best projects of the innovative development of the universities. Each university has received between 200 million rubles (US\$8 million) and 1 billion rubles (US\$40 million) for two years. One of the most important conditions of the competition was the financial investment from the university to the project of more than 20% from the common sum of the project. The money from the project will be used for new equipment, for research for raising the qualifications of teaching staff, including scholarships to leading universities in Europe, the US, Japan, Canada, etc.

RUSSIAN UNIVERSITIES IN THE BOLOGNA PROCESS

Russia is making major progress towards globalization in the higher education system, together with Europe within the framework of the Bologna Process which it joined in 2003 in Berlin. Russian universities are closely connected historically with the European system of higher education.

The Russian system of higher education originates from Peter the Great's Decree of 28 January 1724 on the institution of the Grammar School, the University and the Academy of Sciences. The experience of European universities was made use of in the establishment of this triad. Peter the Great corresponded with prominent scientists of his time and considered various projects for the institution of the University and the Academy of Sciences. The project offered by the outstanding 18th-century German scientist Leibnitz in his letters to the Tsar is worthy of special attention. The statutes of the Academy of Sciences, the University and the Grammar School set out the goals and tasks of these governmental institutions. The grammar school envisaged training

under secondary education programmes with advanced studies in mathematics, languages and natural sciences. Grammar school graduates had an opportunity to continue education at university. Upon graduation from the university, the graduates could work as teachers, engage in scientific research or become civil servants and diplomats. Usually capable students had scientific advisors — academicians — and were supervised and trained by them as they prepared for scientific work and further teaching at the university. A specific feature of Peter's university was the active participation of students in research work — an example of the research university close in ideology to Alexander Humboldt's model. At the period of establishment of the university and the academy, brilliant, world-famous scientists such as L. Euler, D. Bernulli, A. D. Kantemir, G. Z. Bayer. V. Lomonosov and many others worked there.

By joining the Bologna Process, Russia not only became a full member of the European educational environment, but also an active player in this field, capable of influencing the process of development while preserving the best traditions of the Russian high school: fundamentality and profound theoretical knowledge (www.bologna.spbu.ru).

One of the provisions of Bologna Process supposes transition to the three-level system of education: Bachelor, Master, Ph.D. This system is totally in line with the Russian Federation Law “On higher professional and post-university education”. Apart from this three-stage system, there is mass-scale training in Russia in the categories: qualified specialist — aspirant to the doctor's degree. In the long term, qualified specialists will probably remain in a number of specialities: doctors, some engineering specialities, creative specialities. The advantages of the Bachelor-Master system are connected with the necessity of fast updating of knowledge. The training of graduates supposes that the student gets a broad education and the ability to update knowledge and skills promptly, in accordance with set tasks. In Russia at present the bachelor's course runs for four years, the master's for two years. It should be noted that the bachelor's degree corresponds to a complete higher education. A graduate may work in any establishment, in companies, firms, in the banking system, in small and medium business, in the service industry. Normally a graduate gains the necessary skills and knowledge on the spot, learning at special courses while working. Masters and Ph.D.s, as a rule, find jobs at research institutes or at universities. The inclusion of postgraduate studies in the third stage of training requires the enhancement of the educational component within the postgraduate course: lectures and seminars on the chosen speciality, work in science, and the opening of new scientific fields.

When shifting to the Bologna Process, it is principally important to preserve the essentially attractive features of the Russian system of higher education: fundamentality, scientific/pedagogical schools and preparedness for innovative transformation.

In addition to the document on higher education — the diploma — the graduate at Russian universities will be given a supplement to the diploma containing the following data: information on the diploma-holder, on his qualification and its level, on the contents of the educational programme and the results gained; information on professional and job-related orientation of the qualification, on formal certification of the given supplement in the given country; description of the system of higher education in the country, supplementary information at the discretion of the university. The supplement to the diploma is executed in Russian and in one of the European languages, usually English. At present a number of Russian higher schools, as an experiment, issue the supplement to the diploma to meet all requirements of the Bologna Process.

The next element of the Bologna Process — the mobility of students and teachers — is already being implemented in Russian universities within the framework of bilateral agreements with foreign universities. Certainly, this exchange does not take place as a mass-scale phenomenon, basically for purely economic reasons. In our country, the system of grants provided to students on a competitive basis for training abroad during one semester is insufficiently developed. Further development of the system of state and private funds will enable students and teachers of Russian higher schools to enjoy academic mobility.

For the due realization of the principle of mobility, so that the courses read to the students at another university were deemed as completed within the Russian system, a standard, generally accepted system of test units or assessment marks is necessary. Such a system has been developed — ECTS (European Credit Transfer System). One credit in European countries corresponds to 36 academic hours. The total number of test units (credits) for the bachelor is about 180 hours. As a rule, a student, jointly with his tutor, makes an individual plan including obligatory and optional courses. In a number of universities in Russia, alongside the traditional 5-grade system, a 10-grade system is being introduced. The student is given a corresponding number of test units for a course if he was given a positive assessment mark at the examination in the conditions of 5-grade system — not below 3.

As noted in the concept of modernisation of education in the Russian Federation, the major purpose of the modernisation process is the improvement of the quality of schooling of higher schools graduates. The problem of quality of higher education is central in the Bologna Process as well. As a rule, two models of quality assurance are used: a governmental body (in the Russian Federation, federal service for supervision in the sphere of education and science) or public organizations, professional associations and independent agencies. At present most Russian universities have departments or boards engaged in internal control of the quality of the educational process. Undoubtedly, the principal person responsible for the quality of specialist

training is the pedagogue. The issues of quality of education are directly connected with the procedure of accreditation of the university and of particular educational programmes. In Russia the accreditation of universities is made by the Agency for Certification and Accreditation, though the Law "On Education" envisages the possibility of public accreditation in addition to governmental accreditation. Some Russian universities, in addition to state accreditation, are granted international accreditation of the university as such or of particular educational programmes. At present there is a broad network of accreditation agencies in Europe. The internationalization of accreditation procedures will make it possible to achieve competitiveness of the Russian universities in the context of globalization.

One of the most acute problems that are to be solved by the Bologna Process is reciprocal recognition of qualifying documents in higher education and scientific degrees. An important step in this direction was taken in Lisbon in 1997 when the Convention on recognition of higher education qualifications in Europe was signed. The convention was signed by the overwhelming majority of European countries, Russia, US, Canada and Australia. It should be noted that most of the provisions of the convention have a recommendatory character and are not binding. A seminar on mutual recognition of qualifications took place in Lisbon in 2002 within the framework of Bologna Process, where a number of recommendations were developed:

- It is supposed to pay principal attention to the results of education and gained skills (competencies), instead of the time of training and names of courses.
- It is expedient to develop bilateral contacts between the universities and joint educational programmes, with issue of documents on jointly awarded degrees.
- To create conditions for having full-scale knowledge about the educational systems in different countries and in particular universities.
- To provide development of the system of external assessment of education quality, to apply to international accreditation agencies.
- To inform university teachers, administration, undergraduate and postgraduate students of the problems of recognition of qualifications and scientific degrees.

All these recommendations were taken into account at leading Russian universities.

An important aspect of the Bologna Process is the autonomy of the university. Special attention is being given to this issue in the modernisation of the Russian education. The development of autonomy of a university is connected with the processes of democratization and reciprocal responsibility of the university and the state. A number of provisions concerning the autonomy of uni-

versities, characteristic of the European universities, totally comply with the present-day Russian conditions:

- Independent management of the university and realization of strategic planning.
- Choice of partners, both Russian and foreign, for research and educational activities.
- Independent adjustment of curricula and syllabi within the framework of state-prescribed standards, that are developed by training-and-methodology associations and are submitted to the Ministry for approval and are further passed to the university where they can be altered and supplemented to some extent (5-10%).
- Settlement of personnel issues — employment of teachers and research workers.
- Independent admission to the university, to fill the allocated state-budgeted positions.

However, the problem of the independent use of finance within the framework of approved budgets involves a number of restrictions connected with the so-called budget funding and excessive custody of the Board of Treasury. There should be more mutual trust between the university and financial bodies, with strict accountancy and transparency of financial matters of the university, not only for the controlling financial bodies, but also for the university public at large.

“The Great University Charter” adopted in Bologna in 1988 states: “The university functions in the societies having differing organisation being the consequence of different geographical and historical conditions, and represents an institute that critically interprets and disseminates culture by way of research and teaching. To meet the requirements of the modern world, it should be morally and scientifically independent of political and economic authorities in its research and teaching activity.” The Charter was signed by Rector of St Petersburg State University, S.P. Merkurjev. Within the two last decades St Petersburg University has consistently supported widening the autonomy of universities, especially as concerns development of educational programmes and new specialities demanded by modern society, in the first place, interdisciplinary programmes. The rigorous system of educational standards impedes the dynamics of innovative development of the leading universities of Russia.

The unity of the educational and scientific processes is a cornerstone of higher education in Russia. In the pre-revolutionary period, the scientific research was concentrated in some leading universities of Russia. In the 1930s the situation changed somewhat in connection with the institution of a great number of academic research institutes. However, leading universities continued to preserve the tradition of the unity of educational and scientific pro-

cesses. It is very important that the Bologna Process is aimed at further development of scientific research at the universities with the obligatory involvement of students in research. In Russia, according to statutory documents, every teacher must devote half his work hours to scientific research. A teacher actively involved in science introduces in his course the spirit of new ideas and due research dynamics. At present conferences and seminars devoted to the development of Bologna Process refer to the integrated European educational and scientific research environment. Therefore participation of Russia in the Bologna Process will stimulate the development of scientific research in Russian universities.

A very important step of the reformation of the Russian science-education sphere will be the transformation of the Russian Academy of Sciences. The main aims of this action will be the integration with the leading Russian universities and the extension of the innovative character of research results. This step is very important for the training of highly qualified specialists.

International cooperation plays a very important role in the Bologna process. Therefore joint master and doctoral programmes between Russian and European Universities are very significant. As an example, I would like to point to joint master programmes run by St Petersburg University with German universities. The Master Programme “Applied polar and marine study” was organized five years ago between St Petersburg University and Bremen, Kiel and Hamburg Universities. Students receive their qualification (Master’s degree) from St Petersburg University and Bremen University. The programme is accredited in Germany and in Russia. Students have two supervisors, one from St Petersburg University, the other from a German university. Students do practical work on Russian and German polar research ships. This year is a so-called “Polar Year”; therefore this programme is very up-to-date. The next example is a joint master programme “Applied Physics and Computational Physics” between St Petersburg University and the Technical University of Munich, Technical University of Ilmenau and Leipzig University. This programme is very important in connection with the development of Nano-technology and the Nano-industry in Russia. The practical work for our students will be in the Russian Research Center (Kurchatov Institute) and in the Nanotechnology Center of the Technical University of Munich. An example in the humanities is the joint master programme “Europe Study”, organized by St Petersburg University and Bielefeld University.

Our Masters and Ph.D. students are involved in many international research projects, for example, with CERN (Geneva) Ion collider (ALICE project), with BESSY-2 Synchrotron Radiation (Karlshorst, Berlin, Germany), SHELL Research Centre Seismic Processing (The Netherlands), Tokyo Electro-Communication University Earthquake Prediction (Japan) and many others.

The next important element of the Bologna Process is development of the system of continuous education — Lifelong Learning (LLL). The fast development of new technologies and introduction of latest research achievements in practice is leading to the need to update knowledge and gain new skills and competencies. Besides which, the labour market is changing dynamically, which brings about the need for graduates to master a new speciality (second higher education). Sometimes it is enough to attend a short-term course and to implement the gained knowledge by practical classes. Russian universities have been paying more and more attention to these issues recently, especially with regard to the demographic recession expected in Russia.

The Bologna declaration proclaims the necessity of preserving major European values. This thesis is especially important in the context of the globalising world. It should be noted that Russia has made an appreciable contribution to European culture, so Russian universities, being not only centres of science and education, but also centres of culture, naturally advocate the preservation and further development of the spiritual and cultural heritage of Russia and Europe. We should not lose our cultural traditions in the competitive struggle in the market of educational services.

The Bologna declaration draws the universities' attention to their social responsibility in the development of the modern society. The concept of social responsibility is highly multifaceted and includes:

- Accessibility of higher education for capable young people irrespective of their material condition.
- Training of specialists at the level of up-to-date requirements.
- Training of political, economic and cultural elite who will secure the efficient development of the country.
- Development of science and new advanced technologies promoting the progress of the society.
- Reproduction of intellectual resources and human capital.

The modern state of the Russian universities in relation to the major elements of the Bologna Process is presented in the report of A.A. Fursenko, Minister of Education and Science, read in Bergen in 2005 and in London in 2007, at the meetings of Ministers of Education of the countries-participants of Bologna Process. Below are the data published on the Internet by results of the meeting in Bergen (<http://www.bologna-bergen2005.no>):

- Two-level programmes are introduced in half of all Russian universities for more than 100 specializations, except for medicine, military disciplines and information security (the bachelor training takes place in 681 universities [50.7%], the master training — in 305 universities [22.7%]).

- 752 universities include postgraduate studies as a third stage of training.
- 31 universities (2.5%) are participating in the pilot project of introduction of the system of credits (ECTS) for certain educational programmes (10-15%).
- The issue of appendices to the diploma (Diploma Supplement) under the Bologna Process standards is realized in a number of universities as a pilot project.
- The quality control system is practised in all universities: 568 state-run (federal) universities and their 1,242 branches; 52 accredited (non-federal) universities, 352 accredited (private) universities and their 341 branches.

The analysis of these data shows that Russian universities are in a number of parameters within the framework of introduction of the Bologna declaration principles, for instance the use of credits system and issue of supplement to the diploma remain behind in the meantime from the European universities. At the same time the transition to the two-level system and inclusion of postgraduate training as a third stage in educational process are the positive achievements of Russian universities. If the European universities which started the transition to the principles of Bologna Process plan to complete this process by 2010, the same will take place in Russia approximately in 2014-2015. But, at least, one can already observe good dynamics in the adaptation of Russian universities to the principles of Bologna declaration.

CONCLUSION

At present Russian universities cooperate actively in the world's education and research with leading research and educational centres in the US, Europe, Asia, and Latin America. Joint educational programmes are created, joint research projects are carried out by Russian and foreign Foundations.

Since 2003 Russia is linked to the Bologna Declaration, entering the European educational system as a competent member and receiving the possibility of active influence on its development. The transition to the three-cycle system with all other elements of the Bologna requirement will be evolutionally with the preservation of the best traditions of Russian universities.

The integration of Russia into the world educational space should be accompanied, in the condition of the adjunction to the WTO, foreign economical policy including both the export of educational surveys and its import.

Russian universities will develop the mobility of students, teachers and researchers, invite foreign students to come to Russia and create branches in other countries, developing distance learning.