

The Bologna Process and the Russian System of Higher Education

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Abstract—The basic principles and objectives of higher education, declared in the Law of the Russian Federation on Education, as well as in the Magna Charta Universitatum, the Lisbon convention, and the Bologna and Sorbonne declarations, are analyzed along with the measures undertaken by the European Union in order to reorganize the sphere of higher education. The Russian system of higher education is shown to meet all the main requirements specified in the European documents and to completely comply with the concept of continuing education prompted by the modern rapidly developing high-technology world; hence, there is no need for reorganization and introduction of the bachelor—master—doctor of philosophy scheme instead of the specialist—candidate of science system. At the same time, there is a need for such state-guaranteed financial support of teaching and scientific research activities that would provide the necessary conditions for solving urgent problems in closely interrelated fields of fundamental science and engineering.

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Goals and Objectives of the Higher Education System

Efficiency of the higher education system of a country depends on the extent to which the state (as a system of government institutions) is capable of defining strategic goals of development and, correspondingly, tactical objectives requiring urgent solution. The strategic goals can be formulated and solved only by broadly educated people, whose horizon is not limited to the framework of one narrow specialization. The total basis of their knowledge should cover many disciplines; otherwise it is impossible to see promising areas, in which coordinated development of related sciences will lead to the emergence of fundamentally new knowledge that can radically change the technology. The solution of tactical tasks requires specialists, whose level of training allows them to fairly easily switch between solving different field-specific tasks, without spending much time on retraining and additional study of information in the new field.

At present, in the majority of case the development of science and technology in general goes on as follows. At the interface of two or more disciplines there appears a new development concept, which not

only gives new theoretical knowledge but also makes it possible to create fundamentally new technological approaches and schemes. Significant intellectual forces focus on detailed development of these approaches. A great number of people specialize in this area and implement maximum of the corresponding basic ideas. Gradually the possibilities of the area become exhausted; the area goes on by inertia providing a certain return. By this moment, sooner or later, a new basic concept emerges and gives rise to a new stage of development. A distinctive feature of our time is that these stages (or cycles) are becoming shorter and shorter.

It follows from this development scheme that it is not rational to train specialists who will be able to put their knowledge into practice specifically in the current cycle of science and technology development. The cycle duration is relatively short and the next cycle will require specialists in another area of specialization. Specialists who were in demand yesterday or are still needed today tomorrow will have to change their specialization drastically, which will require much time and effort. And no one can be sure that they will be equally efficient in the next cycle. Moreover, the new cycle concept itself can be

developed only by those who have not been strictly focused on a certain area.

Another important fact is that new development concepts often emerge in areas where initially someone just have observed an interesting phenomenon, which for a long period of time seemed nothing more than a beautiful theoretical or practical result without obvious technological or applied prospects. As a rule, interesting phenomena are found in areas where some rather routine research was carried out for a long time; at some moment a certain new idea was introduced in these routine works more or less accidentally or there simply was a failure in the standard well-established procedure, which has brought to absolutely unexpected results. The emergence of interesting ideas is a non-programmable and unpredictable process; it is determined by a combination of many factors, which are often not even directly related to the field of research in question. However, it is these ideas that eventually serve as a driving force of development.

What conclusion is to be made from this? First of all, that it is not only applied research aimed at development of advanced technologies but also fundamental science forming the basis for such research works and an environment for emergence of new ideas that is important. And the objective of the system of higher education in a country is to train specialists in both areas. In this context, the key requirement to the system of training is that the basic knowledge of the individual should not be limited to a narrow specialization, at the same time being close to expert knowledge in a certain selected area.

At the current stage of development a well-trained specialist which is efficient in scientific and technological environment is a candidate of science. The candidate's basic training is ensured in the process of studying at a higher educational institution, whereas the candidate's deeper knowledge in a particular area is gained in the course of further special education and independent research work, the results of which form the basis for the candidate's dissertation.

Let us, from this point of view, analyze the Russian system of higher education and the reforms of the European educational system which were started in 1988 by the Magna Charta Universitatum [1], whereas more specific ideas in this sphere were formulated in the Lisbon Convention [2], the Sorbonne declaration [3], and the Bologna declaration [4].

Reformation of the European Educational System

The Magna Charta Universitatum, signed by now by 721 university rectors from 79 countries, including 15 Russian institutions of higher education, starts with the words saying that "people and States should become more than ever aware of the part that universities will be called upon to play in a changing and increasingly international society." "The future of mankind depends largely on cultural, scientific, and technical development" and "this [development] is built up in centers of culture, knowledge, and research as represented by true universities." "The universities' task of spreading knowledge among the younger generations implies that, in today's world, they must also serve society as a whole; and that the cultural, social, and economic future of society requires, in particular, a considerable investment in continuing education." It is universities that "must give future generations education and training that will teach them, and through them others, to respect the great harmonies of their natural environment and of life itself" [1].

Fundamental principles which in compliance with [1] have to ensure the fulfillment of their mission by universities are as follows:

"(1) The university is an autonomous institution at the heart of societies differently organized because of geography and historical heritage; it produces, examines, appraises, and hands down culture by research and teaching.

To meet the needs of the world around it, its research and teaching must be morally and intellectually independent of all political authority and economic power.

(2) Teaching and research in universities must be inseparable if their tuition is not to lag behind changing needs, the demands of society, and advances in scientific knowledge.

(3) Freedom in research and training is the fundamental principle of university life, and governments and universities, each as far as in them lies, must ensure respect for this fundamental requirement."

The two main conditions intended to ensure achievement of these objectives are as follows:

"(1) To preserve freedom in research and teaching, the instruments appropriate to realize that freedom must be made available to all members of the university community.

(2) Recruitment of teachers, and regulation of their status, must obey the principle that research is inseparable from teaching.”

Thus, the Magna Charta Universitatum defined the general goals and objectives of higher education, the role and status of universities, and the principles for governments to adhere to in the sphere of education. Ten years after the Magna Charta Universitatum was issued, ministers responsible for education, who represented four leading European countries (France, Germany, Italy and Great Britain) in which the oldest universities are located, jointly proposed the Sorbonne declaration [3], specifying the measures to be undertaken in order to create the most effective system of higher education meeting the requirements of the time in Europe. A year later they were joined by governments of 25 European countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and Switzerland, which resulted in signing in 1999 of the Bologna declaration [4].

In both declarations it was stated that it was necessary to “strengthen and build upon the intellectual, cultural, social and technical dimensions” of the continent, which “have to a large extent been shaped by its universities, which continue to play a pivotal role for their development.” According to the Bologna declaration, “a Europe of Knowledge is now widely recognized as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competencies to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space” [4]. Therefore, the main objective is “to create a European area of higher education, where national identities and common interests can interact and strengthen each other for the benefit of Europe, of its students, and more generally of its citizens” [3]. Apart from that, it is necessary to ensure “the increasing international competitiveness of the European system of higher education” [4]. As “the vitality and efficiency of any civilization can be measured by the appeal that its culture has for other countries,” it was decided to “ensure that the European higher education system acquires a world-wide degree of attraction equal to our extraordinary cultural and scientific traditions” [4].

It was noted [3] that “a period of major change in education and working conditions” was coming; there was “a diversification of courses of professional careers with education and training throughout life becoming a clear obligation.” Therefore, it was necessary to give “our students, and our society at large, a higher education system in which they are given the best opportunities to seek and find their own area of excellence.” An important factor for creation of such a system is “to remove barriers and to develop a framework for teaching and learning, which would enhance mobility and an ever closer cooperation” between the countries of the continent. A condition ensuring solution of the set objective is the emergence of “a system, in which two main cycles, undergraduate and graduate, should be recognized for international comparison and equivalence.”

To have a better understanding why the objective is formulated exactly like this it is necessary to refer to later documents clarifying trends that took place in Europe at the time of the Sorbonne and Bologna declarations.

The conclusions and recommendations of a special Helsinki seminar dedicated to the criteria and requirements to the qualification awarded at the end of the first cycle of study (bachelor) indicated that [5] the problems of many European countries included a long period of education at this first level, a high dropout rate, and a general increase in the duration of university training. Well-planned and efficient programs at both levels had to reduce the general duration of training, thus, decreasing the number of students dropping out without any qualification and helping them to find their place in the labor market.

According to [5], a two-cycle bachelor–master structure had to give a number of benefits as compared to the lengthy, often inflexible course of training leading directly to the master’s degree, which was traditional in many European countries. The main advantage of the new two-level system had to be related to the fact that students were offered programs, which due to their modular configuration, allowed for more flexibility and contributed to increased national and international mobility. These programs had to provide students with a possibility either to continue education within the framework of the same specialty or to choose another one either at the same university or in another higher educational institution.

Apart from that, until that moment many professionally oriented higher educational institutions

of Europe had offered only bachelor programs, whereas the new system suggested introduction of master programs in addition to bachelor programs in such institutions so that students should not change their professional orientation at the moment of transition from the first level of education to the second.

So, the reason for the reformation implemented by the European Union is the generally inefficient educational system, separate educational levels of which were poorly coordinated with each other and their total duration was too long. The priority measures which were to be undertaken by the European Union in the first decade of the third millennium in order to solve these problems are clearly defined in the Bologna declaration. In particular:

“Adoption of a system of easily readable and comparable degrees, also through the implementation of the Diploma Supplement, in order to promote European citizens employability and the international competitiveness of the European higher education system;

Adoption of a system essentially based on two main cycles, undergraduate and graduate. Access to the second cycle shall require successful completion of first cycle studies, lasting a minimum of three years. The degree awarded after the first cycle shall also be relevant to the European labor market as an appropriate level of qualification. The second cycle should lead to the master and/or doctorate degree¹ as in many European countries;

Establishment of a system of credits – such as in the ECTS system – as a proper means of promoting the most widespread student mobility. Credits could also be acquired in non-higher education contexts, including lifelong learning, provided they are recognized by the receiving universities concerned;

Promotion of the necessary European dimensions in higher education, particularly with regards to curricular development, inter-institutional cooperation, mobility schemes and integrated programs of study, training and research” [4].

In this case “much of the originality and flexibility in this system will be achieved through the use of credits (such as in the ECTS scheme) and semesters. This will allow for validation of these acquired credits

for those who choose initial or continued education in different European universities and wish to be able to acquire degrees in due time throughout life” [3].

It should be noted that the proposed system of credits is a simplified version of the system of academic hours allocated to students to study each particular discipline, which has been always applied in Russian higher educational institutions. Information on the number of hours has been always included into the diploma supplement. Therefore, neither the idea about the necessity to introduce diploma supplements nor the establishment of the credit system brings anything new into the Russian system of education and students’ knowledge control. All of this was used in the Soviet Union and is still applied in Russia.

What does detailed information about the courses attended by the student give? It makes it possible for the student to transfer to another educational institution or even to move to another country in order to continue education there. The Sorbonne declaration clearly says, “We hereby commit ourselves to encouraging a common frame of reference, aimed at improving external recognition and facilitating student mobility as well as employability” [3]. Correspondingly, it is noted that “at both undergraduate and graduate level, students would be encouraged to spend at least one semester in universities outside their own country” and that “the fast growing support of the European Union, for the mobility of students and teachers should be employed to the full” [3]. In continuation of this idea the Bologna declaration states that creation of the European area of higher education is “a key way to promote citizens’ mobility and employability and the Continent’s overall development” [4].

As we can see the main idea is the creation of a common standard of the European educational system on the basis of the oldest universities of Europe for the purpose of the most complete distribution of knowledge and training of specialists for the European labor market. Apart from that, such conditions are created for universities that allow them “to compete more resolutely than in the past for students, influence, prestige, and money in the worldwide competition of universities” [6].

The term “European” is central in this context. It is a fuller integration inside the European Union that is meant here; such integration would provide equal opportunities to the citizens of all its member-countries and in a long term it would ensure maximum

¹ The Russian equivalent is candidate of science.

efficiency and coordination in the work of European universities and research centers.

Russia is not a member of the European Union and will hardly become one. Of course, it does not mean that graduates of our higher educational institutions have to be inferior to the citizens of the European countries. But what does it require to keep up with them? What is considered the basis of the European educational system, apart from harmonization of degrees? – It is mobility! In other words, it is the availability of legal (legislative) and financial possibilities for free movement of students and specialists between the countries of the European Union, provided that they have documents proving their educational level and work experience.

What do we need to comply with these requirements? First of all, it is high quality training of specialists and internationally recognized diplomas. Old Russian classical universities have all of this. Second, we need financial and organizational conditions providing foreign citizens with an opportunity to come to study and work in Russia and the Russians – in Europe. At the same time, visiting students and teachers should have the same status, rights, and opportunities as the permanent teachers and students of the higher educational institution in question. Therefore, the practice of admitting foreign students and professors in higher educational institutions of our country will become possible only when the students' scholarships and the teachers' salaries in Russian and European higher educational institutions become equal and Russian universities possess a sufficiently developed infrastructure, including university-owned apartments and students' dormitories of a sufficient capacity and an adequate service level.

As for Russian students, an opportunity to learn a number of courses taught by specialists from other higher educational institutions, including institutions of other countries, will undoubtedly make their training more diversified and adequate to the modern level of science. Note that at present our students can go for training or summer work to European or U.S. higher educational institutions; as a result, often it is a foreign institution of higher education that they choose for continuation of their education and academic career. And very often the reason for such choice is the absence of a prospect to find a well-paid job in Russia after completion of education.

It is necessary to implement such a version of mobility that will allow Russian students to study abroad temporarily, thus, increasing their chances for employment in Russia, provided that such employment should be considered more attractive. Such conditions can only be created by the state, which can ensure the necessary support for science and education in the country.

It should be noted that the mentioned problem of mobility is solved in a very active manner in Europe. There is Action Plan for Mobility of the European Union [7]. Within the framework of this plan there is a number of special programs helping people from different countries of the European Union to find training or job options that suit them in other countries. The corresponding information is given, in particular, on the European Job Mobility Portal [8]. The list of countries presented on this web-site does not include Russia. It is neither mentioned on the web-site of the European Commission for Education and Training [9] nor in such special programs as PLOTEUS (Portal on Learning Opportunities throughout the European Space) [10] and EUROPASS [11]. It is natural in some measure as these resources are dedicated to training and job opportunities specifically in European countries. It is not without reason that the slogan of the Europass web-site is "Opening doors to learning and working in Europe."

There is nothing alike in Russia. The government and the corresponding subordinate structures do not offer foreign citizens any opportunities to get higher education or training in Russia. Even if they did make a formal offer, there is a very limited number of people (especially in Europe and the United States) who can consider it attractive or promising. Until now the minimum necessary measures to provide technical and financial support to Russian higher educational institutions have not been undertaken; moreover, it is these measures that have to make the learning conditions in our country at least comparable to the European level (there is no mentioning of any preference for Russia as yet). What changes in the Russian educational programs can be discussed under such conditions and with what purpose?!

Let us consider what the European declarations say about educational programs and qualification degrees as such.

The following is specifically noted in the Sorbonne declaration, "International recognition of the first cycle

degree as an appropriate level of qualification is important for the success of this endeavor, in which we wish to make our higher education schemes clear to all.” Why the question is formulated exactly like this becomes clear when studying the recommendations of the Helsinki seminar [5]. The European labor market needed more and more specialists with higher education and the solution of this problem was more difficult in countries where they had only lengthy single-cycle programs of education. It was expected that shorter bachelor programs would allow for faster training of specialists required by the labor market. At the same time, it was specifically noted that “there are certain areas of specialization in which the bachelor degree does not meet professional requirements of the labor market” [5].

It can be judged from the Bergen Communiqué of 2005 whether this problem was solved successfully [12]. The European ministers responsible for education welcomed the positive results of introduction of the two-cycle educational system in many European institutions of higher education; at the same time, they noted that there were still difficulties with students’ transition from the first to the second cycle and that it was necessary to undertake special measures at the level of the governments and social institutions in order to increase employability of bachelors.

It is only natural as bachelors in any of the basic areas of specialization, in which classical universities train their students² (mathematics, physics, chemistry, biology, informatics, and cybernetics), are not in demand. The demand is for specialists with a higher level of knowledge who can autonomously conduct commissioned research works.

In principle, such specialists are represented by graduates of the second cycle of education, in which, according to [3], “there would be a choice between a shorter master’s degree and a longer doctor’s degree, with possibilities to transfer from one to the other”; moreover, in both graduate degrees “appropriate emphasis would be placed on research and autonomous work.”

The basic conclusions and recommendations with regard to master-level degrees were formulated at a special conference held in Helsinki in 2003 [13]. First

of all, it was noted that in general master programs corresponded to a five-year training course. At the same time, in European countries there were two different versions of the two-cycle educational system. In some countries master and bachelor programs were independent, whereas in others they were integrated into a common sequence of educational programs. According to [13], these two versions can coexist in the European area of higher education, provided that they comply with the task to create more opportunities for individual choice of qualifications.

As in the bachelor cycle the duration of training and the content of courses can vary [5], similar flexibility should be also present in the master cycle under conditions of general conformity with the required level of qualification [13]. Apart from that, single-cycle programs of training, at the end of which graduates are awarded a master’s degree, can remain in a number of areas [13]. In this case introduction of intermediate qualification levels allowing students to transfer to other educational programs is encouraged.

Once again it was noted [13] that adequate evaluation of knowledge and the level of training of graduates from different educational institutions was possible only in case the diploma supplement, giving detailed information on the courses studied by the graduate, was available.

Such harmonization of master-level degrees was intended to attract talented students and researchers from other countries (obviously, including Russia) to study and work in Europe. Legislative and financial changes, facilitating entry and stay in European countries for foreign citizens, including study and work permits, serve the same purpose.

Therefore, the main task of the whole process of the European educational system reformation is to create a more efficient system, ensuring faster training of masters, i.e. high-level specialists; furthermore, all measures are taken in order to attract as many talented young people from other countries to pursue a corresponding degree as possible.

In this respect it is necessary to note that a significant place in the above-mentioned Bergen Communiqué [12] was given to discussion of a three-level system, which, alongside with bachelor and master cycles, obviously included a third level, namely, training of doctors of philosophy (candidates of science). In this context it was noted that it is an urgent task to increase a number of people who

² The article is dedicated to education in natural and exact sciences. However, almost all said in the article also applies to specialists in humanities.

continue their academic careers pursuing this degree in Europe. In point of fact, the necessity for those who can participate in development of new technologies is becoming more and more acute; and it is not certified specialists but candidates of science who are required.

So, it is quite natural that the apex of changes in the system of higher education of the European Union is the idea that was formulated at the beginning of the paper, namely, that it is necessary to train candidates of science, who get basic education in the process of studying at a higher educational institution and deepen their knowledge in a particular area in the course of further special education and independent research work. It cannot be otherwise in the modern world.

Russia: a Draft New Law on Education³

To what extent do our educational system and our laws comply with this requirement of the time? Let us start with the laws and compare the Law of the Russian Federation "On Education" in force [14] and a draft law due to come into force in 2013 [15].

In the new edition of the law [15] goals and objectives of education are declared in Article 17 "General Requirements to the Content of Education" as follows:

"(1) The content of education as one of the key factors for economic and social progress of the society is focused on ensuring self-identification of the individual, creation of conditions for development and self-fulfillment of the individual, development of the society, strengthening and improvement of the legal, social, and democratic state, effective development of the economy, and the national security of the state.

(2) The content of education should ensure:

- a high level of general and professional culture of the individual and the society;
- creation of the student's system of ideas and the world view in compliance with the modern level of science development;
- spiritual and moral development of the individual on the basis of universal human social and cultural values; integration of the individual into the national, Russian, and world culture;

– bringing up of a person and a citizen, a conscious member of modern society focused on progressive development and improvement of this society;

– meeting the educational needs and interests of students taking into account their abilities; and

– development of workforce capacity of the society, meeting the needs of the economy and social sphere for highly qualified workers and specialists."

These provisions, which are generally in accordance with the content of Article 14 of the current Law "On Education" [14] (as amended in compliance with Federal Law N 309-FZ [16]), are complemented as follows by Article 112 "Higher Education" of the new law [15]:

"(1) Higher education aims to ensure training of highly qualified personnel in all major areas of socially useful activities in compliance with the needs of the society and the state and to satisfy the needs of the individual for intellectual, cultural, and moral development, for deepening and expanding education, scientific, and teaching qualifications..."

In general, it is close to the basic provisions of the Magna Charta Universitatum. Let us recall that in Europe inseparability of teaching and research is considered a prerequisite for achievement of the formulated goals so that "their tuition is not to lag behind changing needs, the demands of society, and advances in scientific knowledge."

Undoubtedly, correct modification of educational courses programs and development of syllabuses for new disciplines are possible only when based on good knowledge of not only theoretical foundations but also practical aspects and potential new directions of fundamental and applied research. The latter can be achieved only in case these research areas are at least partially presented in works of structural subdivision of the higher educational institution.

Is it taken into consideration in Russian official documents? Yes, but only partially. The difference between the Russian and European approaches becomes evident if we analyze the text of Article 2 of the Federal Law "On Higher and Postgraduate Professional Education" [17], which was supplemented by the following provision in compliance with Federal Law N 308-FZ [18]:

"Article 2.1. Integration of higher and postgraduate professional education and science

³ The article only covers the system of higher education.

(1) Integration of higher and postgraduate professional education and science is aimed at staffing support of scientific research, as well as development and improvement of the educational system using new knowledge and achievements of science and technology.

(2) Integration of higher and postgraduate professional education and science can be implemented in different forms, including the following:

(1) carrying out scientific research and experimental development works by higher educational institutions on the basis of grants or other funding sources;

(2) involvement of employees of scientific organizations by higher educational institutions into educational and (or) scientific activities on a contractual basis and vice versa;

(3) carrying out joint research and education projects, scientific research and experimental development works, and other activities jointly by higher educational institutions and scientific organizations on a contractual basis;

(4) accomplishment of programs of postgraduate professional education and continuing professional education by scientific organizations;

(5) creation of laboratories, carrying out research and (or) scientific and technical activities, on the basis of higher educational institutions by scientific organizations; and

(6) creation of departments, implementing the educational process, on the basis of scientific organizations by higher educational institutions.”

In the draft version of the new Law “On Education” this section is reproduced in Article 120 “Forms of Integration of Educational and Research Activities in Higher Education” almost word for word [15].

As can be seen, there is a significant difference between the Russian and European approaches. Russia declares independence of lecturers and professors of higher educational institutions and research groups funded by grants or contracts; moreover, absence of grants makes research work impossible due to the fact that state (budgetary) funding of this activity is not envisaged. However, only academics, who continuously conduct research, can interest students, help them to find a sphere, in which they will be able to fully realize their abilities, and cultivate the right attitude to science in them. Furthermore, special

courses for graduate and postgraduate students can and must be given by research staff members of the higher educational institution. It should be noted that in the new edition of the Law “On Education” [15] the latter is formally taken into account in Article 48 “Teaching Staff,” which says that “Alongside with teaching staff members teaching activities in an educational institution can be carried out by managers, specialists, and employees, who have the required qualification in the area of specialization of the given course of study, subject, discipline, or module, including employees of the organization in question under conditions of payment by the hour or as a part-time job.”

In case of proper organization of work the professor giving the main lecture courses is at the same time the supervisor of a research group, consisting of not only students and postgraduate students but also staff members who are paid constant state-guaranteed salaries. The latter condition is necessary both to ensure continuity and existence of scientific schools and to promptly develop special lecture and practical courses for students and postgraduate students, taking into account the latest theoretical and practical achievements in the area of specialization of the employee in question. In this situation the obligation of the state is to create the necessary conditions for full-scale work of teachers and staff members of higher educational institutions.

In Europe this aspect is paid great attention to. As we have seen above, the Magna Charta Universitatum declares that one of the two main conditions ensuring accomplishment of their mission by universities is availability of the instruments appropriate to realize freedom of teaching and research to all members of the university community. In the draft Russian Law “On Education” the main conditions ensuring fruitful work of employees of higher educational institutions are listed in Article 49 “Rights and Freedoms of Teachers, Guarantees and Measures of Social Support.”

“Teaching staff members are guaranteed the following academic rights and freedoms:

(1) the right to freedom of teaching and discussion, freedom of research and dissemination of research results, freedom of expression of views, freedom from interference in professional activities ...

(6) free access to teaching and methodological materials, facilities, and equipment, supporting the educational process, that are necessary for quality performance of professional activities;

(7) free use of libraries and information resources and access to information and communication networks and databases that are required to carry out teaching, scientific, and research activities in educational institutions;

(8) the right to labor conditions, maximally contributing to efficient teaching and educational work and scientific and research activities, as well as providing a possibility for quality performance of professional activities;

(9) free access to services of teaching, educational and methodological, scientific, social, and other structural subdivisions of the educational institution; and

(10) the right to carry out scientific, technological, and research activities, to participate in experimental and international activities, development works, and application of innovations... ” [15].

In general, compliance with these provisions will create almost ideal working conditions. However, ... how will it be implemented in practice and who will be responsible for the implementation? Taking into account Article 120 cited above, it becomes clear that scientific and research activities mentioned in sub-paragraphs 1 and 10 are considered support activities, which are to be carried out in the teachers' free time remaining from their main job, which is to give lectures and conduct seminar and practical classes. At the same time, the formally defined minimum teaching load (especially, with regard to low-category teachers, starting from assistants) is very high; therefore, very little time is left to carry out research. As for professors who have more time for scientific work and whose range of interest is much wider, they, in turn, need research fellows (group) making significant contributions into the solution of corresponding problems.

It is an obligation of the state to implement the safeguards as declared in sub-paragraphs 6–8 ensuring normal working conditions for employees of higher educational institutions. It is the state and not charitable organizations or foundations that has to provide universities with the best modern equipment, to ensure access to specialized scientific journals (as in the modern world information is no less important than good equipment), and to pay such salaries to staff members that will allow them to devote all energies to teaching and research, and not to sideline jobs bringing additional income.

Another condition that is considered absolutely necessary in Europe in order to improve the educational system and to distribute knowledge is mobility. In the draft version of the new law there is a separate article dedicated to mobility. It is Article 137 “Academic Mobility,” containing the following provisions [15]:

“(1) Academic mobility is an exchange of students, academics, and researchers between the Russian Federation and a foreign country aimed at training, professional development, and improvement of research and teaching activities...

(2) Educational institutions carry out the exchange of students, academics, and researchers between the Russian Federation and a foreign country aimed at training, professional development, and improvement of research and teaching activities.

As a rule, the exchange is temporary and performed on a parity basis. The duration and other terms of the exchange are defined in the corresponding agreement.”

The latter provision concerning parity is the most interesting. This formulation suggests that an equivalent or comparable number of students, academics, and researchers from other countries, first of all, from the countries advanced in the scientific and educational sphere, will come to study, work, or undergo training in Russia. However, it is only possible on a condition that work and training in Russia are attractive, first of all, in terms of improving knowledge and skills.

The potential of Russia has always been and still is high. Now this potential is used to a very small extent. The processes we have observed for the last two decades have already resulted in partial loss of this potential. And this process can become irreversible unless this trend is broken.

No well-meant declarations can save the situation if they are not supported by real measures aimed at revival and development of Russian education and science. Moreover, they can make it worse by creating an illusion that the country is making steps in the right direction, whereas in fact it is not so. And no market can correct the situation as it is not the market that determines technology development trends (the market only reflects the demand in the corresponding areas) but advanced science and education. Moreover, what makes them advanced is their independence from this market and its relatively limited momentary conditions. And it is the state that is intended and obliged to ensure and support this independence.

However, it is natural that, apart from material and financial support, a well-thought-out educational policy and a logical educational system are necessary. As we have seen above, the reason for the reformation of the European educational system was its inefficiency and the result of the reformation was the creation of a three-level bachelor–master–doctor of philosophy system, in which the duration of training in each cycle is optimized and the cycle programs are harmonized. In principle, this scenario is not at all new. In the Soviet Union and in Russia there was and still is a two-level specialist–candidate of science system, which has proved its efficiency and rationality.

The new draft law defines the following levels of higher education in the Russian educational system (Article 15 “Structure of the Educational System”) [15]: “bachelor programs; master programs, training of specialists; and training of research and teaching staff.”

In fact it is admitted that standard five- or six-year education within the framework of specialist or bachelor–master programs is not sufficient to train research and teaching staff. A graduate from a higher educational institution can become a full-scale independent researcher or academic only after additional in-depth study of corresponding areas of science, practical training in teaching, and carrying out a dissertation work.

When speaking about the graduate educational level, it is natural to ask whether it is necessary for Russian institutions of higher education to have all three options for training young specialists (bachelor, master, and specialist). Obviously not, as in our country there are no problems analyzed above, which are characteristic of the European educational process; all measures undertaken by the European Union are aimed at elimination of these problems. Moreover, the reforms of the European system of higher education gradually make this system more and more like the structure that existed in the Soviet Union and can be found in Russia so far. The only difference is an intermediate bachelor’s degree, which for a number of specialties is recognized as not meeting the requirements of the modern labor market and in other cases cannot guarantee adequate employment. There is one more thing. There is one important motive that is found in all European documents (in particular, in the Bologna declaration), according to which the educational reform is implemented “taking full respect of the diversity of cultures, languages, national

education systems, and of University autonomy.” And it is necessary to take it into account when discussing the measures aimed to improve the educational system of Russia.

Thus, we come to an obvious conclusion. Russian five- or six-year programs for training specialists, who can continue their education taking postgraduate programs or seeking a candidate of science degree, fully comply with the main objective pursued by the European educational reform. Moreover, it is Russia that can and would have to help Europe in the creation of rational educational programs!

And the final point (in order, but not in importance) is that all documents of the European Union put the main emphasis on employment of graduates of higher educational institutions on the European labor market. If we consider training of specialists for the European market the main objective of the Russian system of higher education, then a straightforward implementation of the bachelor–master system is justified, as all conditions to train highly qualified specialists (with a master’s degree) for Europe are created, leaving half-educated bachelors to stay in Russia. But this is against the national interests of Russia! Under this approach the status of the Great Power is out of the question!

If we care about the future of our own country, and not as a supplier of raw materials and intellectual resources to Europe and other countries of the world, but as a leader in the sphere of science and technology, it is necessary to understand that the current version of the reform of higher education that is carried out is futile and destructive. As already mentioned, our educational system is in compliance with the basic provisions of the Bologna declaration. Yes, it does need modernization; however, first of all, this modernization has to deal with the science and technology base of higher educational institutions. Apart from that, it is necessary to make additional education (not second full-time education but just additional education) available and free of charge for people of all ages, providing that they have sufficient basic knowledge. Such retraining system can be based on advanced training courses with a duration varying from half a year to a year and with a paid leave or partial employment at the main place of work.

An equally important responsibility of the state is to support science in general in the country and, first of all, to ensure decent employment for graduates of higher educational institutions. In this case students

will have a real incentive to study as to work for the welfare and prosperity of their own country in future.

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