

Conference Paper

Transformation of Higher Education in Russia: Current Trends in the Educational Process

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Abstract

This article analyzes the process of higher education transformation in Russia as a result of its accession to the Bologna process, as well as the changes caused by digitalization. Emphasis is placed on the magistracy, as this level of higher education involves in-depth training of future professionals for the needs of the digital economy. The aim of the study is to determine students' information and communication competencies as an integral component of their competitiveness. The sociological research was carried out within the framework of the project 'Birth of the Russian Magistracy'. The research reflects the results of the magistracy teachers' and the master students' survey conducted in Russian regions. It should be noted that students' digital skills are well developed, and they are more oriented toward 'traditional' forms of education than distance education or on-line format. In this case, higher education is considered by students as a significant source of socialization. It should be noted that the Russian magistracy is characterized by a 'transition' period in solving the problems of the digital economy.

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1. Introduction

Modern society is constantly changing due to the active development of science and practice. One of the main trends of the XXI century is digitalization, which opens a number of opportunities in various spheres of life, including higher education. Thanks to digitalization, new educational technologies emerges, including online training (massive open online course — MOOC), training with virtual simulators and virtual assistants, etc. This significantly increases the opportunities for higher education, contributes to its mass expansion. In particular, digitalization allows us strengthening the effectiveness of training people with disabilities. At the same time, along with the possibilities, digitalization carries risks that can be attributed to the blurring of the individual's identity, social uncertainty, deputation and frustration [2]. The question of whether the system of higher education is capable of taking into account modern trends, carrying out training of competitive personnel for the new economy becomes important. 'The Information Society Strategy for the Russian Federation for 2017–2030', adopted in 2017, implies

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a transition to a national digital economy that contributes to improving the efficiency of various types of production, technology, equipment, storage, sale, delivery of goods and services.

The purpose of this study is to assess how the current Russian magistracy is prepared for these changes. The analysis of Russian higher education should take into account that, along with the influence of external factors caused by digitalization, it has undergone and is undergoing a number of internal institutional transformations. And although the transition to a two-tier education system in Russia has been for more than a decade, not all mechanisms are fully established, which should also be taken into account in this study [4].

2. Methodology and Methods

The research 'Birth of the Russian Magistracy', initiated by the Institute of Education of the University 'Higher School of Economics' was conducted in 2018. The aim was to analyze the state of the modern Russian magistracy and determine the key vectors of its development. The study used the method of questionnaire on quota samples, geography numbered more than 23 regions of the Russian Federation in the following federal districts: North-West, South, Volga, Ural, Siberian, far Eastern. 713 teachers of the magistracy, as well as 3 480 undergraduate students and 1 140 students of the magistracy were questioned. The sample was taken into account only universities, subordinated to the Ministry of Science and higher Education. The questionnaire was carried out in a handout and by way of a face-to-face method.

It also seems important for us to pay attention to the socio-demographic characteristics of respondents for a more complete picture of the conducted research. As for teachers of the magistracy, the average age was 45.49 years. The average number of teaching years is 19.8 years; at the same time, the minimum experience of the teachers surveyed is 1 year, the maximum is 59 years.

It should be noted that here we mention some of the results obtained during the study 'Birth of the Russian Magistracy'. First of all, it is a characteristic of the university staff's attitude towards the magistracy and towards educational reforms (Russia's accession to the Bologna system), without which it is difficult to imagine the general picture of the ongoing processes [5], [6]. Secondly, it is the degree of formation of digital competences among students, which characterizes readiness for self-realization in the modern labor market. By digital competencies, we mean knowledge, skills and skills in information and communication technologies and processes. Their significance has

been repeatedly emphasized by Russian researchers, in particular G.A.Bannykh notes that without proper participation of universities in the process of formation of such competencies, opportunities of professional self-realization of future specialists are weakened [1].

We will also find out whether students themselves want to participate in the implementation of new educational technologies using the example of online training. One of the modern stereotypes is the idea that students increasingly prefer digital reality to traditional communication with the teacher. In Russian practice, there are also cases when online learning is seen as a full-fledged alternative to inclusive education for people with disabilities because they may have difficulty attending university. We have already noted that this approach carries risks. A person included only in distance communication can be limited in his socialization, depriving of the possibility of acquiring 'soft skills' [6]. Today the increase in the proportion of students with disabilities at the Russian universities (for comparison: In 2007, 5770 students with disabilities were admitted to Russian universities, and in 2019 — 7487) is observed [3].

Since a number of macro- and micro-factors affecting the higher education processes, fractal analysis, which combines the principles of synergetics and reflexive approach, can be the theoretical basis of the research [7].

3. Results and Discussions

One of the key conclusions of the poll 'The Birth of the Russian Magistracy' is the dominance of ambiguous assessments of the fact of Russia's accession to the Bologna process. Only 7% of respondents found themselves firmly convinced of the positive impact of the reform. Rather, the reforms are positive 34.5%, but rather negative 39.5

The most 'problem points' are related to the increase in document circulation, which, apparently, affects the decrease in the ability to conduct scientific research. It should also be mentioned that university staff consider the level of remuneration in the academic sector to be low. We used one options of the Likert scale to estimate these indicators. The results of one-dimensional frequency distributions are presented in Table 1. Evaluation of changes in higher education by teachers of the magistracy. The teachers were asked to answer the closed question 'evaluate the following statements about you and the university you are working in: (Score on a 5-point scale, where 5 — fully agree, 1 — completely disagree)', expressing the degree of agreement with the following proposed statements: A — 'In Russia, the opportunities for academic mobility (transition to work in another university in any region) are unlimited'; B — 'Salaries in

the academic labor market in my region are not competitive in comparison with other spheres of employment'; C — 'The Opportunity to combine teaching and work at the enterprise after joining the Bologna process has decreased'; D — 'After the transition to a new education system, more paper-based work has become useless'; F — 'It has become more difficult To do scientific work after the transition to a new education system'.

TABLE 1: Evaluation of changes in higher education by teachers of the magistracy.

Symbol of judgment	Distribution of respondents' responses					Medium importance the degree of agreement with judgment
	1	2	3	4	5	
A	121	300	60	51	74	2.43
B	8	48	139	221	194	3.89
C	99	16	203	158	134	3.34
D	4	12	36	64	498	4.69
F	8	53	70	290	173	3.95

It should be noted that joining the Bologna process involves encouraging competitiveness in the international market for educational services. At the same time, it should not be forgotten that the quality of innovations implementation depends on the degree of university staff's development. Indicators such as the availability of conditions for research, academic mobility, participation and salary levels are too important for the professors.

Another important issue concerns the use of modern teaching methods in the preparation of masters. 17.36% of professors note the presence of a high proportion of laboratory classes using high-quality equipment. Now let's turn to the results of the survey of students of the magistracy within the framework of the project 'Birth of the Russian magistracy'. Of particular interest are indicators that allow us characterizing the masters' digital competences formation. They include the following information and communication skills:

1. Search and Processing of necessary information from various sources, including specialized databases;
2. The ability to use information technology and to ensure the security of information;
3. Skills of presentation of research results in the form of articles, reports;
4. Ability to work with data, including Big Data.

The study has revealed the following students' most formed competences: the skills of searching and processing information, and among the least formed — IT-technologies and information security (Table 2. Evaluation of the formation of digital competences of masters). The Table 2. shows the following designations of competencies: A — Search and process information from various sources, including specialized databases; B — Information technology and information security; C — Presentation of research results in the form of articles, reports, reports; D — Ability to work with data, including 'Big Data'.

TABLE 2: Evaluation of the formation of digital competences of masters

What competencies are formed in you to a greater extent, and what do you think are not enough yet?	Most formed	Not yet enough
A	973	166
B	606	533
C	831	308
D	814	325

As we see, respondents note that they have a sufficient degree of digital competencies. However, these skills could be obtained outside the educational process, for example through self-study. Therefore, one of the questions of the questionnaire was aimed at determining how students evaluate the contribution of the magistracy program to the formation of the above-mentioned competencies. Thus, 55.92% of the students are sure that the university fully provides their competencies formation in the area of work with Big Data; 61.21% have the same opinion in terms of the ability to present the results of the study (to prepare reports, articles); 40.83% — in terms of information technology and information security; 67.7% — search and processing of information from various sources, including specialized databases. The percentage of those who believe that universities do not provide these competencies is not so high — less than 11.06%.

As for the attitude of the master students to some modern methods of education, in particular to on-line courses, it is still ambiguous. Only 51.8% of students believe that such classes should be conducted frequently and very often. It is noteworthy that 34.9% chose the option 'rarely', and 13.3% believe that such courses are not needed at all.

In general, an important trend in Russian education, in our opinion, is its social significance evaluation by students, who increasingly associate the diploma not with the acquisition of profession, but with the acquisition of social ties and prestige. To demonstrate this fact, we will turn to another poll of the Russian Public Opinion Research Center (VCIOM), held in 2019 'Higher Education: Social Lift or Lost time?'. Its results show an increase in the proportion of young people connecting the essence of higher education with tradition and social prestige. For example, 74% of those surveyed between

the ages of 18 and 25 say that higher education is becoming an obligatory condition for successful careers; 76% do not agree with the statement that the lack of higher education guarantees only low-paid and non-prestigious work [8].

It should be noted that higher education in Russia is gradually being adapted to the realities of the Bologna process, taking into account digitization. While there is some doubt about the effectiveness of educational transformation, it is clear that higher education will not return to past experience, given the trends of globalization and global competition. In general, both teachers and students recognize new trends, and turn to digital competencies, though these skills are not yet fully formed in higher education.

4. Conclusions

Higher education in Russia as a whole is undergoing a number of changes and it seems that it has yet to revise some benchmarks for the successful realization of the digital economy goals. Our research has determined the following problems of Russian higher education: the lack of high-tech equipment, the overload of university staff in terms of working with educational and methodological documentation and, as a result, the decline in opportunities to engage in science, etc..

It is necessary to pay attention to the introduction of modern educational technologies — joint programs, network training, on-line courses taking into account the interests of students. Modern masters, socialized in a digital environment, are pretty good at finding the right information, but they are not successful in ensure information security, IT-technologies that cover many processes and areas of professional activity.

It should be noted that the role of universities in the formation of these competencies among undergraduates should become leading — possible 'growth poles' can also be attributed to the Big-Data space. In conclusion, we note that the achievement of the objectives of the digital economy is impossible without a comprehensive analysis of the needs of all stakeholders — university staff, students, employers, university administrations. Only through a productive dialogue of stakeholders can enhance the competitiveness of higher education on the international market and ensure the well-being of the state as a whole.

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