Electronic Education: the World and Russia

Электронное образование: мир и Россия

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Abstract. The article speaks about current issues of the development of electronic education in the world, about problems and prospects for its development in Russia. Online education in the field of higher education is analyzed, as well as the prospects for the export of educational services based on massive open online courses (MOOC) developed by Russian universities in foreign languages within the frame of the project of export Russian education.

Keyword: Russia, electronic education, online education, export Russian education

Аннотация. В статье рассматриваются современные проблемы развития электронного образования в мире, проблемы и перспективы его развития в России. Анализируется онлайн-образование в сфере высшего образования, а также перспективы экспорта образовательных услуг на основе массовых открытых онлайн-курсов (МООК), разработанных российскими вузами на иностранных языках в рамках проекта экспорта российского образования.

Ключевые слова: Россия, электронное образование, онлайн-образование, экспорт российского образования

Introduction

This point has become undeniable: everywhere, in all spheres of human activity. Without information and communication te.chnologies (ICT) skills, without easy orientation on the Internet, without knowledge of foreign languages, it is no longer possible to become a sought after specialist both in analyzing of the necessary data and in finding effective solutions in any industry.

Education in general, higher education in particular, quickly perceived the advantages and inconsistencies generated by the digital revolution and thus began to introduce modern innovative forms of education, including e-education as a component of the main educational programs, or as a complete alternative to traditional education at all levels – undergraduate, graduate, postgraduate. The experience of numerous American universities proves this, as we will show below.

The development of e-education: world experience

According to forecasts, the global market for higher education, in 2017-2021, will show an average annual growth of 20%. With a low proportion (only about 3%), electronic or online education is one of its most growing segments. According to estimates by reputed experts, the digital part of education promises, by 2023, to exceed the level of $ 240 billion, adding more than 5% per year. In 2016, the volume of its IT part

was approximately $ 29.19 billion (Research of the Russian market, 2017, p. 15).

In many countries where e-education is supported at the national level, the main directions of its development are highlighted: the introduction of open standards, the creation of open educational resources (infrastructure) and the development of open education within the development strategy of the whole educational system.

However, the situation in online education varies greatly in different countries. The leader in this field is the United States, where in 2015 already, with a total number of students of 18.6 million, about a third – 29% were studying online fully or partially (Research of the Russian market, 2017, p. 20). Distance learning delivering a state diploma is offered in many American colleges and universities, among them the University of Pennsylvania, Boston University and Indiana University. However, according to the Eduventures report, up to 80% of the 2.6 thousand universities in the United States offering online education, including, for example, Yale and the University of Southern California, outsource the development and maintenance of their online courses.

In European countries, discussions about the pros and cons of e-education are continuous; the extent of its use in European universities is much more modest than in the USA. At the same time, more than half of European countries have already adopted strategies for the development of e-education, and the main models of the modern university of the 21st century always include an online university, which provides first-class higher education (Digital technologies. 2019).

1. We shall cite the expert opinion of the Director of the UNESCO Institute for Information Technologies in Education (IITE). He says that the increase of the number of students in universities cannot be solved only by creating new traditional universities. It is e-learning that will become the second wave of university transformation, which will be implemented in the near future: after ten years since 2000, e-learning coverage has increased 9 times, and by 2019 it is supposed that half of all classroom classes will be carried out online (Badarch. 2014). Despite the fact that the growth of the global e-education market is carried out due to all segments: preschool and school education (in the USA, ROK, India various services are being developed to prepare for specialized exams), corporate training (advanced training and retraining), English language training, training for older people, but serious prospects in the course of university modernization and growth in world demand for higher education are in the segment of higher education.

In higher and secondary vocational education, the most promising, although not dominant in the global e-education market direction, are massive open online courses (MOOC) hosted on open international platforms. In 2017, in total there were 9400 MOOC registered in the world from more than 800 universities[1] (Dhawal Shah, 2018).

The number of viewers registered for at least for one MOOC in 2016 amounted to 58 million people, and 78 million people already in 2017. More than half (54%) were courses on Coursera and EdX platforms, the two largest suppliers of MOOC (both platforms from the USA); 75% of MOOC were in English, and a quarter of all new MOOC were launched on regional platforms of such providers as XuetangX (China), Miríada X (Latin America) and OpenEdu (Russia).

According to 2017 statistics, the number of viewers on the Coursera platform was 30 million, on EDX 14 million, on XuetangX 9.3 million, on FutureLearn 7.1 million, on Udacity 5 million (Russian educational online platforms), The Russian platform OpenEdu occupies 29th of 33 positions of global suppliers of MOOC (Russian educational online platforms) with 554 thousand viewers. Besides the OpenEdu platform, experts also note the potential of Universarium and Eduson platforms (Vorobiev, 2017).

The availability of online courses for suppliers and consumers

Among all the platforms, the Coursera platform provides access to the widest audience (30 million people in 2017), while for its partners, the platform provides courses free of charge, keeping the largest percentage of income from the sale of the course. The EdX platform gives access to a smaller

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[1] All MOOC are open online courses ever launched, some of them can be inaccessible now.

audience (14 million people), however, it provides great opportunities to receive income from the course (50% of each certificate while reaching the milestone of 50 thousand dollars during the first launch of the course and 10 thousand dollars while relaunches). The access to most online courses to all platforms is free. The student pays additionally for the procedure of the final testing and obtaining a certificate. The cost of obtaining certificates for one online course on the OpenEdu platform is 1800 rubles[1], on the Coursera platform $ 29-99[2], on the EdX platform $ 49-300[3].

Online education in Russia

In Russia, online education has developed recently, well-known projects have appeared only in recent years. The online education market in Russia in 2016 was estimated at 20.7 billion rubles, but within five years it is expected to grow to 53.3 billion rubles, an increase in the share of online education to 2.6% by 2021 from the entire Russian market paid education.

However, the growth figures of the online educational segment of the Russian education market are recognized by experts as dynamic and promising, especially for higher education and professional training. Their shares in online education, which are 1.8% and 6.7% in 2016, will grow to 4.4 and 10.9% by 2021, respectively, according to experts. The dynamics of language learning is taken into account separately – from 7% in 2016 to 10.7% by 2021 (Research of the Russian market, 2017, p. 38-40).

The optimism of experts is due to the fact that since the mid-1990s Russia has begun to pay attention to the development of the Internet infrastructure and e-education. It is known that with the digital path, the infrastructure (channels of information distribution), their security and clear regulation of Internet resources (Vorobiev, 2017). We will present some chronology of creating an infrastructure of Internet resources in higher education.

In 1994, the RUNNet (Russian UNiversity Network) was created – Russia's largest scientific and educational telecommunications network, and educational portals with access to numerous information and educational resources were also created, within the framework of state targeted educational development programs[4]. In 2002, the "Russian Education" portal Edu.ru came into being. It has several subsystems and the possibility to integrate the resources of federal portals, university portals, and regional educational sites by creating an integral resources catalog, an electronic library of educational and methodical publications. Since 2005, the portal "Single window of access to educational resources" has been in operation, many university websites and educational platforms have followed. However, according to Skolkovo experts, at the previous stage, almost all existing Russian online platforms were initially focused on paid provision of educational services and did not claim to reach a large audience (Russian educational online platforms). In 2015, with the support of the Ministry of Education and Science of Russia, a project was launched and implemented to create a common open platform for online education – "Open Education" OpenEdu (https://openedu.ru/). It was created by the "National Open Education Platform" Association, which was established by leading Russian universities – Lomonosov Moscow State University, St. Petersburg State University, National University of Science and Technology, National Research University "Higher School of Economics", Moscow Institute of Physics and Technology, Ural Federal University and St. Petersburg National Research University of IT, Mechanics and Optics. Currently it is the leading open platform of Russian education, however, exclusively in Russian.

In 2016, the Government of the Russian Federation launched a new priority project "Modern Digital Educational Environment in the Russian Federation", in which from 2017 to 2020 is planned to allocate substantial financial resources for the implementation of the following – very important for our higher education- activities:

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[1] https://openedu.ru/certificate

[2] https://about.coursera.org/

[3] https://support.edx.org/hc/en-us/articles/206211958-What-does-it-cost-to-take-a-course-

[4] Modern distributed infrastructure for data storage and treatment (supercomputers, data bases), high speed network infrastructure and system of services for operations with research data

https://www.runnet.ru/docs/conception_RUNNet.pdf

a) the creation of a system for assessing the quality of online courses, the development of requirements for skills in the field of online training, the development of proposals for the regulatory support of the development of online training and the possibility of setting off successful courses in basic educational programs;

b) the creation of software, technological infrastructure, public services, integration solutions for the development of online learning, the creation of an information resource that ensures the use of online courses on the principle of "one window";

c) the creation of a system of advanced training for teachers and specialists in the field of online learning;

d) the creation and implementation of at least 3,500 online courses, the results of the development of which can be credited to the main educational programs and a number of others.

16 universities in Russia have already become the main developers of the modern digital educational environment in the Russian Federation (MDEE). The largest grants for the competition were given to St. Petersburg National Research University of IT, Mechanics and Optics (for the development of the single-window portal), to National University of Science and Technology (for PR support project), and to ten universities for the creation of centers of advanced training for teachers. The new infrastructure should combine all interested parties in the development of online education – universities, independent online platforms, potential employers through a single window that gathers combined data. For the first time it contains voluntary expert assessment of the content of each online course. According to experts, the cost of the evaluation of one course is more than 300 thousand rubles with the participation of three independent experts (Krasnova, 2018). 388 online courses have already been posted on the MDEE platform where 460 thousand people study. Until 2025, Russia plans to increase the number of students enrolled in online courses to 11 million people and develop at least 4,000 online courses.

From the export of hydrocarbons to the export of education: the challenges of digital technology

The priority project "Development of the export potential of the Russian education system", adopted in 2017, involves a consortium of 22 universities in Russia, most of which belong to the leading universities of the country. This indicates a certain continuity of the chosen direction of development of digital education and the expansion of tasks related to Russian programs on the international market. The essence of the project has seen a sharp acceleration, stimulating various forms of export of Russian education. Now, Russia is ranked 4th or 5th in the world in the number of foreign students (280 thousand in 2017), and this number, according to the plan of the project, should increase significantly. The project is multifaceted and interesting, however, the problems that it raises are quite large-scale and serious. In a part of the topic discussed on these pages – the development of e-education, we will focus on the problems and their possible solutions within the framework of the priority project. Among the problems that restrain the export opportunities of the Russian education, in particular its online segment, we will mention the main ones.

1. Despite the state support for the development of infrastructure and the safety of online education, the investments by universities and their associations, the development of e-education is extremely slow: there is no national strategy for its development; regulatory framework for such an education in general.

2. It is known that in terms of positions (the number of English-speaking Internet users in the world, the number of MOOC, etc.), English language dominates. In this regard, the presence of a full-fledged English-language version of the site of each university becomes a prerequisite for recruiting, training, and socializing foreign students. According to experts, 92% of international students are usually recruited through the website of a higher education institution. A survey conducted by a group of European sociologists showed that every fifth respondents deleted those universities whose websites they did not like from their list of high education institutions. While 90-

93% of potential students in Asian countries view their future university primarily through its official website (Krasnova, 2018).

3. However, a series of studies of English-language versions of Russian universities' sites in comparison with the best top universities in Europe and Asia (Aidrous, Asmyatullin, 2015) where English is not the national language, conducted by the Russian Council on International Affairs (RCIA) in 2015-2017, clearly shows that "the most universities – participants of the project "Education Export" have no English-speaking websites at all or they are filled with the minimum information". Actually, only 64% of Russian universities have English-language pages on social networks, and of these, only 7.7% of Russian universities update the information in their accounts on a daily basis.

4. Development and deployment of open educational resources, MOOC, by Russian universities is going slowly, painfully. Among the reasons why universities do not develop MOOC are high admission and annual fees charged by suppliers of MOOC platforms; the massive costs of developing and maintaining its own MOOC platform; the high costs of developing MOOC; the lack of skills required to create them.

5. If there are numerous external resources (websites of state and municipal structures, universities, their faculties and institutes, research organizations, libraries, publishing houses, non-profit organization, etc.), an extremely limited number of them are directed to an external, foreign audience. As for the open distance learning programs in foreign languages operating in the field of higher education in the Russian Federation, the information about them is very fragmentary, non-systemic by its nature, which caused the need to study this issue.

In 2017-2018 IGSU RANEPA has implemented a project to promote Russian online courses in foreign languages to the international educational market. In the free database compiled by the Russian and French Center of Education and Consulting of IGSU RANEPA in 2018, based on a survey of 365 universities of Russia, only 39 universities implement online training programs in foreign languages, the total number of such programs is 122. To implement the project's objectives, at its first stage, a free database of existing educational programs in a distance format in foreign languages was constituted in educational institutions of higher education in Russia. The next task of the project was to determine the most promising programs that are worth being promoted on the world market, conducting their qualitative and quantitative analysis. For this, it was necessary to study both the advanced foreign and domestic experience of creating online programs, to explore these new "products" of the educational market. The heart of the project was the creation of an infrastructure for promoting information about online courses of Russian universities in foreign languages created and selected at previous stages, developing strategies and technologies for promoting (information and communication, technical, marketing and other) online programs and a set of quantitative and qualitative effective criteria for their promotion.

The project promotion infrastructure includes:

1) the first Russian website catalog of online courses in English http://coursesinrussia.com/ (official page "Courses in Russia"),

2) a page has been created on the YouTube channel where you can see the videos of the best courses: https://www.youtube.com/channel/UCw7MdeHmbQUxXmlAJF63mRg; The following pages were created on social networks:

3) Twitter: https://twitter.com/coursesinrussia/, Instagram: https://www.instagram.com/coursesinrussia/, Facebook: https://www.facebook.com/coursesinrussia/ created news pages.

The information about the promotion infrastructure was sent to the Russian embassies for transmission to the ministries of education, to the media, to the websites of foreign partner universities, etc. Currently, recommendations are being developed for universities in promoting new online products, which will soon be discussed by universities – members of the consortium.

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