

Transparency of Higher Education in a Digital Reality: A Reset in Open Education

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ABSTRACT

Global expansion of the digital space on a global scale and identified the phenomenon of the digital divide as a result of advancing development of digital economies in industrial service States requires improvements in the system of higher education for diversification of priority directions of preparation of students who, as a result of acquiring competencies during the implementation of the main educational programs will be in demand in a competitive labor market occupations, organically-based information infrastructure. The applied research methodology, as a result of comparative analysis and interpretation of trend models for the development of open education, allowed us to establish that the implementation of MOOCs in the open educational space of the Republic of Belarus and the Russian Federation is carried out by forming and securing digital competence centers for higher education institutions, and a comparable focus on online education is established. Active transformation of educational technologies occurs due to the need for a competence-based approach in the formation of a meta-subject online educational environment for aggregating the resource potential of the institutional environment and the needs of the external environment according to an objective assessment of the labor market as a result of verifying the competencies and practical skills of University graduates. The spread of online learning technologies creates a competitive educational environment for higher education institutions and determines the motivational component for students when choosing an online course, based on its contextual content. The variability of project solutions for the implementation of online courses in the educational environment of universities in the context of transparency of higher education allows you to choose the most competitive educational content of online courses, based on your own goals and global trends in the development of virtual reality: from your own developments to the use of ready-made online courses on well-known platforms, for further formation of a unified integrated environment.

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1. INTRODUCTION

The formation of educational space on the territory of a neighbouring friendly Nations of Belarus and Russia in accordance with the "agreement on the single educational space and the recognition of documents on education" aimed at improving the efficiency of national higher education systems, the balance of differences in institutional, national and European policy and to promote for the new industrial society (NIS.2), the resource potential of which is characterized by educational and scientific potential in the context of globalization of information infrastructure. The state program for the development of the digital economy and information society for 2016-2020 in Belarus, aimed at transforming the spheres of human activity under the influence of ICT

(information and communication technologies), including the formation of the digital economy, is linked to the programs "Digital Kazakhstan, "Digital Russia" and integrated into the program "Digital EEU" on practical aspects of the introduction of digital technologies in education. In accordance with the Informatization development Strategy of the Republic of Belarus for 2016-2022. (Strategy-2022) one of the priority directions of ICT in the field of e-education is "the development of compatible open e-educational resources for all levels of education, in all areas and specialties of training, ensuring their relevance and accessibility in the national educational information environment; the development of promising areas of distance learning, the introduction of elements of mobile education based on "cloud" technologies". In the context of digitalization, according To the program "Digital economy of the Russian Federation", which

contributes to the coordinated development of the member countries of the Eurasian economic Union, the main key institutions (including personnel and education) have been identified. The development of breakthrough information and communication technologies requires building a modern model of higher education to further provide the digital economy with competent personnel. According To the strategy for the development of the information society in the Russian Federation for 2017-2030, "in order to form the information space of knowledge, it is necessary to use and develop various educational technologies, including distance learning, e-learning, in the implementation of educational programs and to develop and implement partner programs of higher education organizations and Russian high-tech organizations, including on improving educational programs." The issues of transformation of the educational space and technologies are determined by the need for modern students to master digital competencies, including in the implementation of new educational projects ("NTI University 20.35").

2. METHODOLOGY OF RESEARCH

2.1. Problem Statement

The openness of the educational space, aggregation of content resources and academic mobility of students are largely due to the priority development of digital technologies. Information technology permeates the entire structure of the educational environment, from technology to the actual disciplinary courses [1]. Currently, Belarusian and Russian universities are gradually adapting to the current conditions of the changed external environment and the requirements of universal digitalization to ensure the competitiveness of both the educational institution and its graduates. The labor market is aimed at obtaining a "finished product" without overproduction of fundamental knowledge that has competencies and professional skills, the so-called "carriers of appropriate skills" [2]. According to monitoring data, 54 % of students consider practical specific knowledge and skills to be the most important factors for successful employment, while 40% of students require basic theoretical knowledge, and one third of students need analytical skills and data analysis methods [3]. Digital transformation involves a qualitative change in the content of the educational process, which, in the end, will lead to the satisfaction of the needs of all its participants (students, teachers, employers) and ensure a worthy place of the University in the world rankings [4]. Digital technologies make it possible to completely change the management of educational and research activities with the possibility of individual design of the educational route [5]. According to researchers Trostinskaya et al. [6], students and teachers have a high level of satisfaction as a result of using distance technologies. In the post-Soviet space, with a strong classical education within the

specialty, there was a lack of visualization of the educational process and a lag in information technologies. However, there are certain risks when implementing foreign experience in national educational spaces: full copying can lead to degradation or partial loss of their own competencies and resource potential, while completely ignoring existing global trends will not allow them to participate in the process of development or form adequate prerequisites for their own advanced development, respectively, may lead to isolation from global knowledge and adequate trends in the development of digitalization of the educational environment.

2.2. Research Questions

There is an opinion that to assess the potential of using digital technologies in the educational process, two criteria can be considered – "effectiveness" and "economic efficiency" [7]. The effectiveness means that introduction of digital technologies should help meet the needs of improving the quality of educational process (independent study individual modules to reduce the time of learning, individualization of learning, etc.), economic efficiency – the use of digital technology should reduce the costs budget (extra-budgetary) resources of the educational institution. According to the Passport of the priority project in the field of education "Modern digital educational environment in the Russian Federation" (MDEE), due to the development of the digital educational space and increasing the number of students in educational institutions, it is planned to increase the number of students in educational institutions who have mastered online courses to 11 million. by the end of 2025, using the "experience of projects to create online education portals in the Russian Federation, such as the "national platform for open education", "Universarium", "Lectorium", "Russian electronic school" and others". To achieve this goal, the following areas have been identified: improving the legal regulation of online learning, providing expertise of educational platforms and online courses, creating a digital platform for online learning, developing new online courses, opening regional competence centers and training teachers and specialists in the field of online learning

2.3. Purpose of the Study

The purpose of the research is determined by the vector of priority national tasks and consists in an analytical approach to the study of modern trends in the open educational space in the context of the development of the digital economy and digitalization of the educational environment in the Republic of Belarus and the Russian Federation, taking into account the mentality of the academic environment.

2.4. Research Methods

Due to the different types of terms used (online, offline, mixed learning, distance education, e-learning "e-learning", e-production "e-education») and their semantic load there is a discrepancy between the applied approaches to the digitalization of higher education. Based on this, the material for the study is defined by the conceptual apparatus and terminology established by the current normative and legislative acts of the Republic of Belarus and the Russian Federation. For the formation of concepts in the educational environment, it is necessary to rely on article 13 and art. 16 Federal law "on education in the Russian Federation": e-learning refers to the organization of educational activities with the use of information contained in databases and used in the implementation of educational programs, and providing its processing of information technologies, technical means, as well as information and telecommunications networks that provide the transmission of this information over communication lines, interaction between students and teachers. Distance education technologies are understood as educational technologies implemented mainly with the use of information and telecommunications networks with mediated (at a distance) interaction between students and teachers. In article 17 of the Code of the Republic of Belarus "on education", the distance form of education is defined as "a type of correspondence form of education, when education is provided primarily using modern communication and information technologies". From our point of view, e-education is determined by the form of submission of information resources. Accordingly, online education is defined as e-education with elements of distance education, and e-education elements can be present in any educational format. The research methodology is determined by a retrospective analysis and implementation of knowledge in the educational environment using theoretical and empirical research methods through comparative analysis and interpretation of research literature on the concept of open educational space development and the formation of innovative models of digitalization of higher education in the Republic of Belarus and the Russian Federation.

3. RESULT OF RESEARCH

The global trend of socio-economic development has become a course for the development of the digital economy, the potential of which is largely associated with the Informatization of society. Despite the fact that the movement of many countries towards the digital economy occurred almost simultaneously [8], the level of their Informatization is different and we can already talk about the situation of digital inequality.

For example, in the Republic of Belarus there is a "shortage of qualified specialists-analysts who are familiar with big data technology in order to correctly implement and continue to implement effective use" [9]. At the same

time, as noted by Belarusian scientists Kovalev et al. [10], with Belarus lagging behind the world leaders of the digital economy by 3-4 years due to rapid digital transformation according to the Asian model, it is possible to reduce the gap to 1-2 years in the transition to digitalization, the foundations of which are laid by Decree No. 8 "on the development of the digital economy".

Entry into the Russian Federation from November 1, 2019. the so-called law on the sovereign Internet, which provides for the creation of a national system for routing Internet traffic in Russia to ensure cybersecurity, along with ensuring national sovereignty in the information field, raises questions about the freedom of choice of online education on foreign educational platforms when working on the world wide web. According to data Seroshtan et al. [11], in the total output of students in bachelor's, specialist's and master's programs, every eighth student has mastered an educational program using e-learning; 0.5% of graduates studied within the network form of implementing educational programs, which indicates the promotion of digitalization technologies in the Russian higher education system.

Currently, free registration and asynchronous use of course content in MOOCs attracts a large number of students with diverse interests and experience, with a low success rate of 0.9% to 19.2%. According to foreign authors, it is found that the dropout rate of students can reach 90 % [12]. At the same time, there is an increase in the templating of training and a reduction in the opportunities for individualization of the learning process [13].

The approval of the development and use of moocs in the educational process, declared in 2012 at the world Congress on open educational resources, as free, high-quality open educational resources that expand the opportunities for extra-territorial and timeless acquisition of knowledge, defines various forms of MOOC training. There are 2 well-known types of MOOCs: connectivist type-sMOOCs, when the content or content of the course is created by participants on the basis of attracting open educational resources. In traditional, or xMOOCs, material is created, submitted, and regulated by authors or Tutors. There is another type of task-based MOOC – courses based on tasks. In their organization, they are very similar to sMOOCs [14,15].

Most European universities still do not have an official position on the development and use of Moocs, which is the subject of institutional debate. A popular argument in favor of implementing MOOCs is the international positioning of the University and the desire to use MOOCs as a recruiting tool for recruiting students [16] and the existing opportunities for strengthening and consolidation between universities [17].

At the same time there are other models for integrating MOOCs into the educational process of universities: providing access to the library for participants of online courses who are not studying at this University; some of the materials of online courses are studied in traditional forms of education; full-time students use moocs for independent work (inverted class).

As noted Chen et al. [18], MOOC data contains not only profiles and learning outcomes, but also a projection view for identifying learners, displaying common sequential patterns in a group, illustrating transitions between sequential events and/or processes, and augmented sequence chains for comparing personal sequences.

If we consider MOOCs only from a methodological point of view, as remote educational and methodological complexes, then there is only a simulation update of the educational space. Lagging at the initial stage of MOOC implementation makes it necessary to implement progressive educational technologies to reset the higher education system and develop high-quality competitive e-courses. At the meeting of the Presidium of the presidential Council for strategic development and priority projects dated May 30, 2017, it was noted that the export of Russian education should become a national task and the goals were set to bring the number of foreign students of Russian MOOCs to 3.5 million people. The open education educational platform, which has been operating in Russia since 2015 and was created by the Association "national open education platform", established by leading universities-MSU, SPbpu, SPbSU, nust MISIS, HSE, MIPT, UrFU and ITMO, allows you to re-read online courses in basic disciplines developed in accordance with the requirements of the FSES. Accordingly, it is possible to consider mixed learning (Blendedlearning) as an alternative model in the educational environment of higher education.

As a priority direction for the implementation of MOOCs for Belarusian higher education institutions, mixed learning is proposed by reducing classroom lectures and introducing online teacher lectures (up to 10-20 minutes) in small modules of up to 10 topics [10]. A number of authors note the possibility of using MOOCs in part: the first part of the course is online, as a training element, the second part is in the form of classroom work; distance learning with face-to-face or online consultation [19]. The positive aspects include the fact that self-study of online courses in a foreign language contributes to its deep study. However, the presence of MOOCs on different platforms is only an opportunity to use and study the resources presented. The starting point, according to many researchers, can be considered a desire to constantly learn, a high level of self-organization and the level of IT competence of students. As noted Litvak [20], any technologies themselves, including digital ones, do not carry any value content. Educating a person who is able to learn independently, regardless of the medium on which the knowledge is recorded, is the work of a teacher with students at the University.

In this case, the emphasis should not be on the transfer or reproduction of knowledge, but on teaching the main skill—the ability to learn; training is not limited to the formation of digital or professional skills, soft skills – behavioral skills of successful interaction with other people—are of great importance, they note Krjaklina et al. [21]. The possibility of competent online training in technical areas has been established [22].

Along with MOOC (MassiveOpenOnlineCourse) – online courses with open access, allowing an unlimited number of students, the following forms are being developed: SPOC (SmallPrivateOnlineCourse)-online courses of a certain University with a limited number of participants; SOOS (CorporateOpenOnlineCourse) – corporate online courses with open access. The educational landscape of University education has changed with the spread of MOOC, SPOC and COOC, and the advantage of the SPOC concept over MOOC can be noted.

Generation Z, or digital people, have a so-called clip thinking; they are unable to concentrate and analyze; they strive to get short and visual information [10]. Accordingly, the effectiveness of training in the MOOCs system depends on the cognitive characteristics of a person for the perception and processing of incoming information. For students who perceive the verbal type of communication, learning in a MOOCs environment is more effective than learning in a traditional environment [23].

Online learning can be a productive and independent component of higher education, according to a Belarusian researcher Mirontsov [24]. If the digitalization of higher education in Russia is developing within the framework of the national projects "Education", "Science", "Digital economy of the Russian Federation", as well as Coursera, then the Republic of Belarus is far from introducing online learning in the list of components of higher education, not to mention the creation of its own national platform, so as a starting point for digital education, it is worth considering the accumulated experience of Russian colleagues and starting to progressively introduce online courses in the MOOC format into educational programs.

From the point of view Bolgov et al. [25], online platforms are a key factor in creating the modern landscape of higher education information support. Content analysis of the content of Russian online courses revealed a number of main problems related to the use of educational technologies and the organization of online courses: inaccurate identification of the target audience, lack of interactivity, insufficient practical training and weak opportunities for the formation of practical skills, insufficient quality of lecture material, poor-quality tests, passive forms of classes, lack of course support. Video lectures (short up to 15 min. and long – lasting ones (up to half an hour) act as the main way of transmitting educational content, they note [26].

4. DISCUSSION OF RESULTS

For the Russian educational system of higher education the issue of changing the system of state accreditation of higher education institutions towards creating different types of accreditation is being discussed — basic, advanced and leading. They differ in attitude to e-learning: basic (tier) involves the implementation of a significant part of the disciplines in the network form by replacing the traditional format of lectures in online courses National open education platform, i.e. use the courses designed by

leading universities. Advanced accreditation – the University can form all courses independently. Leading accreditation is possible if the vast majority of courses, including those in the core area, are implemented in the online learning format.

Currently, global trends in educational technologies are actively developing in the world educational space, such as:

- adaptive learning, which reduces the number of students dropping out of school by up to 7 % ;

- technologies of virtual and augmented reality (VR and AR) that promote close inter-continental communication of students, the use of Internet classes with a virtual environment in the educational process. Learning virtualization is entering various segments of EdTech in Russia due to the growing popularity of life-long learning. For example, the Russian project MELScience, released on the international market, allows you to study the structure of matter from the inside in online mode. At the same time, it should be noted that due to the significant potential of preschool, school and corporate education, the target audience of future applicants to higher education institutions will be adapted to online learning;

- micro-training involves studying the material in fractional portions, dividing the direction or course into mini-courses, mini-programs, which allows you to update information in the framework of University programs taught for more than one semester. Today, the labor market values certificates that confirm the presence of a narrowly focused, but deep skill. The Coursera platform conducts so-called micro-credentials (micro-courses) for the development of specific skills in certain areas, which is in tune with Russian advanced training courses; artificial intelligence and machine learning are actively used in online learning. AI does not replace a teacher, but it can serve as an assistant; the spread of gamification is determined by the fact that today a small segment of EdTech's target audience is able to learn in the traditional format. The edutainment model (education+entertainment) is increasingly in demand.

Universities actively occupy the niche of additional professional education (b2b and b2c), where the share of online learning is up to 10% of the segment's audience and 7% of the market volume.

A number of scientists Grinshkun et al. [27] suggest the following approaches to the creation and implementation of MOOCs for Russian universities: the first approach involves the development of e-courses directly by the University that implements the main educational program, the second approach is to use e-courses created and distributed by other organizations, the third approach is to use e-courses outside the main educational program of the University with the possibility of subsequent crediting of learning results, which is consistent with our vision of the situation.

Using online courses of third-party developers with the convenience of quick launch of such courses has a number of negative factors: the content of such courses does not coincide with the working programs of disciplines at universities, which leads to a partial loss of control of the

educational process, there is an outflow of financial resources as payment for students' education.

Mixed learning when studying their own or third-party courses allows you to monitor the progress of the development of disciplines, form a cognitive and educational level of communication between the teacher and the student, and implement a motivational component for the independent development of some of the disciplines. On the other hand, it is possible to study a number of subjects in an online environment for people with disabilities, with distance or accelerated learning (inclusion). An important factor in the development of your own courses is their adaptive nature, author's support for courses and the ability of students to get advice at their University. At the same time it is necessary to consider the financial and time resource required to develop online courses, and the unwillingness of some students to organize themselves for self-development courses of disciplines; the possible reduction of teaching load for teachers.

As priority areas of training in educational establishments of the Republic of Belarus is aimed at universities systems of variable-speed training due to the increase in the number of students studying on a paid basis and foreign students and the proliferation of adaptive education in order to transform the content of courses in accordance with the intellectual level of students, say Kovalev et al. [10].

Research of the possibilities of new educational technologies and risks of their implementation in terms of transparency of higher education indicates that universities, being in a single world educational space, to build up their competitiveness to adapt to the introduction of MOOCs on their sites with their own tselepolaganie and challenges of the external environment in terms of a digital reality. The use of modern technologies increases the competitiveness of universities in the open educational space.

5. FINDINGS

Simulation approach to the introduction of MOOCs at the open educational space of Belarus and Russia on the background of General digitization as an instrument of progress, determines the choice of centres of digital competence in higher education institutions. Active transformation of models of Russian higher education institutions by consolidating educational, research and technological processes to University 3.0 in the implementation of national projects "Science", "Education", "NTI University 20.35" and Belarusian higher education institutions in accordance with the strategy for the development of Informatization of the Republic of Belarus for 2016-2022. in modern conditions of neoindustrialization, academic mobility of students requires maintaining value orientation and switching to online education within the framework of open education for a number of disciplinary courses, taking into account the need for a critical approach to the selection of third-

party online courses to reduce reputational and financial risks.

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