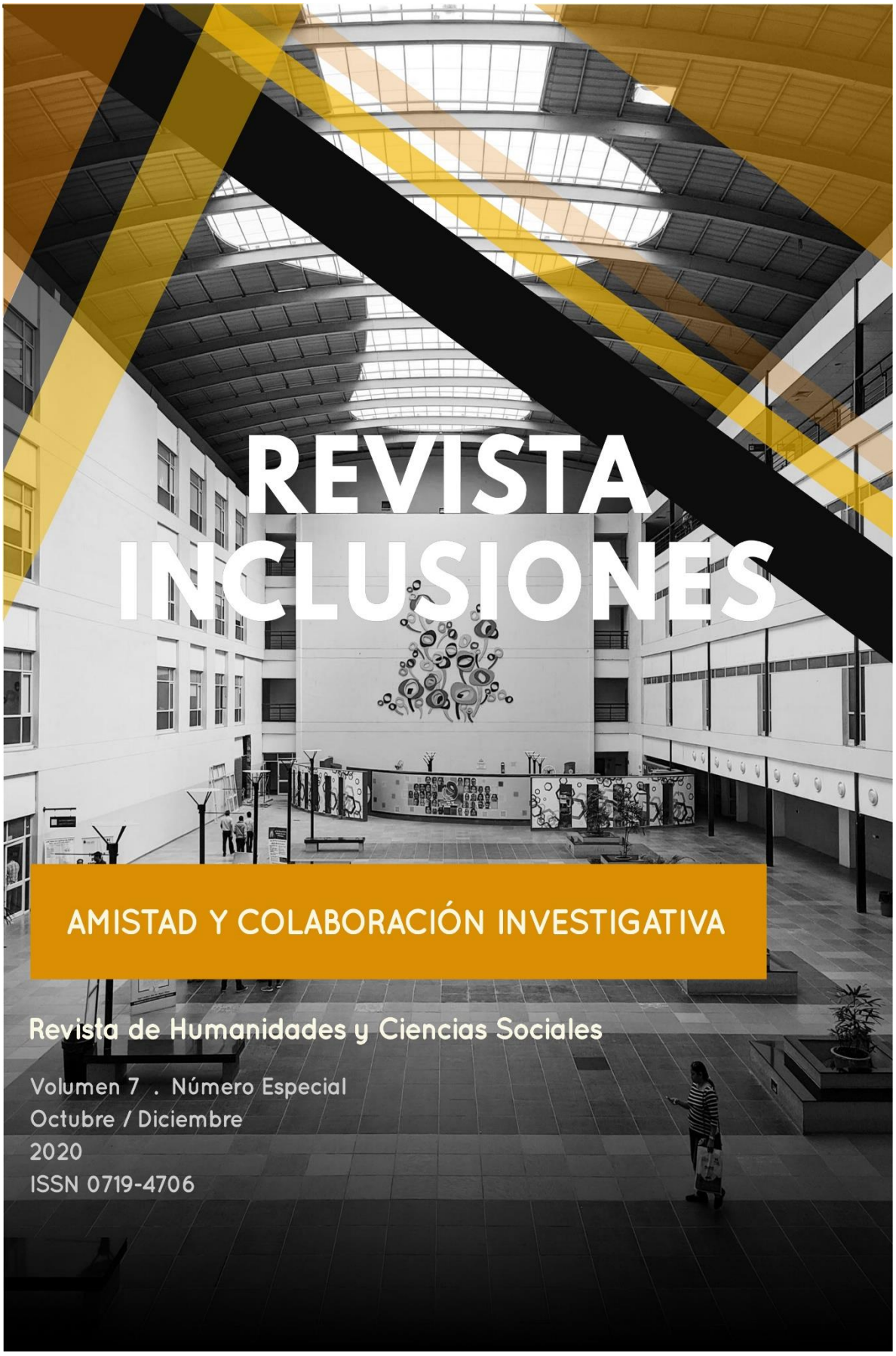

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PROBLEMS OF DISTANCE EDUCATION

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Abstract

The purpose of this paper is to identify problem areas in the field of distance education. These areas are educational content, the form in which the material is presented, the quality of distance education, the inclusion of distance education in full-time education programs, as well as the focus on the customer in education with a view to the student's employment. To identify the educational content of distance education portals, the authors have performed a comparative analysis of the most popular distance education sites. In the analysis, the authors have assessed the sites, focusing on a comparison of goals, the orientation of training, the attractiveness of design, and the ease of use. The quality of distance education is evaluated based on open statistical sources of the Ministry of Education and Science of the Russian Federation and the Pension Fund of Russia which collect information about graduates of Russian universities and verify them based on the personal insurance policy number. The authors also consider research data from the Higher School of Economics. The main results of the study include an analysis of successes in the development of distance education by large educational organizations, assessment of the quality of education based on statistical data on employment, and identification of trends and ways of using distance education in full-time education programs. The analysis presented in the paper can be used in organizing correspondence courses and distance education programs, as well as using distance learning methods in full-time education programs.

Keywords

Digital Economy – Higher Education – Employment of Young Specialists Distance Education

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Introduction

In the period of the digital transformation of society, one can point out a change in both the structure of the labor market[1] and the ways of obtaining knowledge[2]. The innovations in classroom teaching, methods for assessing the quality of a university[3], and problems of employment of young professionals[4] are widely discussed in the current literature.

Today, the development of education is perceived as the most important prerequisite for the economic and social well-being of society[5]. In the era of post-industrial society, higher education is necessary to ensure the work of all social institutions of society[6]. In this case, the main objective of universities is to provide students with high-quality and relevant educational content[7].

The quality of distance learning is an integral indicator, including the following factors: educational content; teaching; information technology; organization of the educational process.

Materials and methods

To assess the modern trends in distance education, the paper studies the methods of distance education in various educational institutions. We present a comparative analysis of the most popular distance education sites[8].

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[1] V. P. Kulagin, “Rynok obrazovatelnykh uslug: osobennosti, sostoyanie”, Slavyanskii forum Vol: 2 num 2 (2012): 18-21.

[2] V. M. Markelov y V. Ya. Tsvetkov, “Modeli poluchenie znanii v geoinformatike”, Slavyanskii forum Vol: 1 num 7 (2015): 177-182; I. Yu. Starchikova; A. V. Ovchinnikov y E. S. Shakurova, “Issledovanie problemy ozhidanii studentov tekhnicheskikh vuzov ot potentsialnykh rabotodatelei”, Perspektivy nauki i obrazovaniya Vol: 5 num 41 (2019): 158-169 y S. A. Kudz; I. V. Soloviev y V. Ya. Tsvetkov, “Spatial Knowledge Ontologies”, World Applied Sciences Journal Vol: 31 num 2 (2014): 216-221.

[3] V. Ya. Tsvetkov, “Worldview Model as the Result of Education”, World Applied Sciences Journal Vol: 31 num 2 (2014): 211-215 y V. Ya. Tsvetkov, “The K.E. Shannon and L. Floridi's amount of information”, Life Science Journal Vol: 11 num 11 (2014): 667-671.

[4] I. Yu. Starchikova; A. V. Ovchinnikov y E. S. Shakurova, “Issledovanie problem…; S. A. Kudz; I. V. Soloviev y V. Ya. Tsvetkov, “Spatial Knowledge Ontologies”…; O. A. Zyateva y E. A. Pitukhin, “Upravlenie nauchnymi pokazatelyami vuza: analiz publikatsionnoi aktivnosti”, Perspektivy nauki i obrazovaniya Vol: 4 num 40 (2019): 509-517 y E. V. Gryaznova; I. A. Treushnikov y S. M. Maltseva, “Trevozhnye tendentsii v sisteme rossiiskogo obrazovaniya: analiz mnenii uchenykh i pedagogov”, Perspektivy nauki i obrazovaniya Vol: 2 num 38 (2019): 47-57.

[5] E. V. Romanov, “Trendy razvitiya vysshego obrazovaniya v kontekste sozdaniya sistemy podgotovki i professionalnogo rosta nauchnykh i nauchno-pedagogicheskikh kadrov”, Perspektivy nauki i obrazovaniya Vol: 5 num 35 (2018): 33-43.

[6] E. I. Chernysheva y E. A. Kubryakov, “Opyt realizatsii praktiko-orientirovannoi modeli podgotovki studentov pedagogicheskikh vuzov fizikomatematicheskogo profilya”, Perspektivy nauki i obrazovaniya Vol: 5 num 35 (2018): 65-73.

[7] D. V. Denisov, “Obespechenie i otsenka kachestva”, Slavyanskii forum Vol: 1 num 1 (2013): 176-180.

[8] S. V. Shaytura, “Mezhdunarodnoe sotrudnichestvo po standartizatsii uchebnogo kontenta v oblasti elektronnoi kommertsii”, Distantsionnoe i virtualnoe obuchenie Vol: 2 num 104 (2016): 63-68 y S. V. Shaytura, “Problemy i perspektivy mezhdunarodnogo distantsionnogo obrazovaniya”, Distantsionnoe i virtualnoe obuchenie Vol: 6 num 108 (2016): 36-41.

In the analysis, we carried out an expert evaluation of sites conducting distance education. We performed a comparison of their goals, determined the focus of training, and evaluated the attractiveness of the design and the ease of use for each of those websites.

During the quality assessment, we carried out statistical processing of data from open sources, such as the portal of the Federal State Statistics Service, and the portal of the Organization for Economic Cooperation and Development (OECD). We used Russian Federal State Statistics Service (Rosstat) data on the analysis of the employment of different population groups, official statistics on graduate employment prepared by the Ministry of Higher Education together with the Pension Fund of the Russian Federation (PFRF), the results of a survey of graduates, and international statistics on various indicators.

The Ministry of Education and Science of the Russian Federation together with the PFRF monitors the employment of university graduates. Educational institutions that wish to participate in the collection of data transmit data about graduates to the PFRF that checks the data. The goal of the project, according to the statement of its authors, is to inform applicants about the possibility of employment after obtaining a degree. Information about graduates is processed by information systems and can be issued upon request by region, university, and training profile.

The National Research University "Higher School of Economics" (NRU HSE) monitors the employment of its graduates annually. The study involves graduates not only from Moscow but also from the university's branches in St. Petersburg, Perm, and Nizhny Novgorod. Their data allowed us to consider the problem of employment in different planes: for compliance with the scope of activities and qualifications, in terms of job search time, etc. The data are estimates based on a survey of students.

Results

The result of the study published in this paper is an analysis of educational content, overview of the most famous distance education sites, and assessment of the quality of distance education and ways to improve it.

Educational Content

Educational content must meet the requirements of accessibility, relevance, and illustrative character,and also contain various elements of stimulating learning and self-examination[9].

To assess the quality of educational content, we used expert opinions of various professionals in this field, as well as a rating system to identify the degree of compliance of the material with the requirements.

Teaching includes educational methods and technologies used in the learning

[9] S. V. Shaytura; Yu. P. Kozhaev; K. V. Ordov; A. V. Antonenkova y N. A. Zhenova, “Performance evaluation of the electronic commerce systems”, Espacios Vol: 38 num 62 (2017) y V. V. Dik; S. V. Shaytura y A. I. Urintsov, “Opyt mezhdunarodnogo sotrudnichestva v oblasti standartizatsii i sertifikatsii uchebnogo kontenta”, Slavyanskii forum Vol: 2 num 8 (2015): 2015.

process (business games, case studies, tests, workshops, group projects and other forms of interactive and active work performed by students), as well as the level and qualifications of teachers, including in terms of distance work with trainees. Assessment of the quality of teaching is closely related to the assessment of the quality of the educational content and is carried out by monitoring the progress of the student, the degree to which the student has mastered the required competencies, and also by analyzing the time that the student spent on studying the course and completing tasks.

Information technology should provide a diverse presentation of educational content and the possibility of using mobile devices in the course of one's study. For example, a distance course may include video lectures, audio lectures, electronic textbooks, and various means of computer animation and modeling, allowing for the virtual execution of practical tasks.

The conditions of active use of the Internet, the ability to access information resources at any time and from anywhere (using smartphones or laptops) determine completely new opportunities and new requirements for distance learning and ensuring its quality.

The main trends in the development of information technology, such as the transition to internal corporate social networks, the organization of remote and secure work of employees with corporate content, and visualization of development tools and application programs, present new requirements for employees in terms of personal computer skills. Speaking about the quality of training, one should think not only about higher and secondary education programs but also about retraining courses, advanced training, as well as corporate training programs.

There are two types of export of educational services: the active and passive types. Passive export is associated with the training of foreign students in their own country. Active export has appeared relatively recently and is associated with the foreign expansion of universities, creation of branches and representative offices in other countries according to the model of transnational corporations, and international cooperation between universities[10].

Review of Distance Education Sites

International distance education is currently experiencing a period of rapid growth. A high ranking in education is an essential component in determining the status of a country. The superiority in the field of distance education is confidently held by the UK and the US is not far behind it. Among the courses offered by leading educational institutions of the UK and the US, one can find some free options[11]. Unfortunately, to enroll in such a course, one needs good English skills.

Let us conduct a comparative analysis of the most popular distance education sites.

1. The UMass Boston (http://ocw.umb.edu/) offers courses in psychology,

[10] V. G. Gerasimova, M. Yu. Sorokina, "K voprosu obucheniya v elektronnoi obrazovatelnoi srede", Slavyanskii forum Vol: 1 num 11 (2016): 61-67.

[11] S. V. Shaytura, "Problemy i perspektivy…

history, biology, mathematics, political science, and the humanities. Courses in biology and mathematics can be useful for specialized schools teaching in English. As for the courses of history, political science, psychology, and the humanities, they have a tendentious worldview approach from the standpoint of Pan-Americanism. This is natural. The main goal of the education system is to instill the values needed by the sponsors of the program.

2. The Khan Academy (http://www.khanacademy.org/) offers a large number of video materials. Courses contain almost no text materials.

3. Coursera (https://www.coursera.org/) is a large course database that contains courses offered by many universities. It also has a Russian-language portal with Russian-language courses. The site can be of great interest to those who seek self-education. This course, founded by Stanford University, has brought together 33 universities from different countries. Leading Russian universities, such as NRU HSE and Moscow Institute of Physics and Technology (MIPT) have prepared several online courses for Coursera. Unfortunately, the cost of training in courses exceeds the cost of training in full-time universities in Russia.

4. The Connections Academy (http://www.connectionsacademy.com/home.aspx) is an English-language website for teaching children of different ages. It can be used in English-language schools. The courses are free.

5. New York University (https://files.nyu.edu/jmg336/public/html/mathematics.html). This site provides mathematics courses divided by grade in PDF format. The courses can be downloaded to one's computer.

6. Open Yale Courses (http://oyc.yale.edu/) contains a large number of courses developed by Yale University. Courses can be studied online and downloaded to a computer in archived form. To join a course, the user must register.

7. The University of the People (http://www.uopeople.org/groups/tuition-free-online-degree) is a private resource that allows the user to get an education in many subjects. The site provides an opportunity to acquire an education in business administration and computer technology. The site provides both bachelor's and master's degrees.

8. The e-learning center (http://www.e-learningcenter.com/free.htm) is an English-language resource in computer science and information technology. One must register to join a course.

9. The website of the National Open University INTUIT (http://www.intuit.ru/intuituser/userpage) contains free courses in Russian. Upon completion of the courses, the user can get a free certificate. To obtain state-recognized documents, a certain amount must be paid. On the site, one can take advanced training and retraining courses.

A review of distance education sites shows that the main subjects taught remotely are: history, political science, cultural studies, mathematics, physics, management, economics, computer science, and information technology.

Some courses offered are free and for others, the user must pay a fee to attend. Free courses are usually either introductory or heavily influenced by propaganda. Although great attention is paid to distance education in the UK and the US, Russian universities also try to keep up. In addition to the courses included in the review, almost every university has a system of correspondence and distance education programs, in which some of the courses are conducted in absentia, and others in-person.

One of the global trends in education is the active development of mass-oriented open online courses. The global university community stands in the way of combining and developing free educational resources.

The formation of a distance education system has its problems: managing network resources and assessing the quality of distance education as an integral part of the independent work of full-time students.

Assessing the Quality of Distance Education

Like any management, the quality management of the educational process is a process carried out in stages, including[12]:

a) the development of a plan to improve the quality of teaching, including the development of new quality requirements and activities that provide the desired results;

b) assessment of the conformity of knowledge and skills of graduates with the requirements that were provided for in the plan;

c) taking necessary measures to influence the process of creating the quality of graduates' skills in those cases where compliance could not be ensured;

d) studying of the conditions of graduates' further activity to determine areas for further improving the quality of education.

Despite strict supervision over the quality of education by Federal Service for Supervision in the Sphere of Education and Science (Rosobrnadzor), the average level of university graduates does not meet the needs of employers. The criterion for the quality of higher education, according to our data, can be considered the number of patents filed per 1,000 graduates. This indicator characterizes the efficiency of engineering and scientific personnel and management efficiency. Of the 3.2 million patent applications filed in 2017, 1.38 million were filed from China, 0.61 million from the US, 0.40 million from Russia, 0.32 million from Japan, 0.20 million from South Korea and 0.17 million from EU countries[13]. For a more correct comparison (the population of these countries differs by an order of magnitude), we normalized these data by the number of certified specialists of working age. The maximum number of patent applications for 1,000 specialists with higher education was filed by South Korea (9.2). For China, this value equaled 3.2. For the US, it equaled 4.0 and for Russia – 0.5 (based on our calculations).

[12] O. A. Strakhov y A. F. Strakhov, “Opyt tselevoi podgotovki inzhenernykh kadrov”, Voprosy radioelektroniki Vol: 6 (2018) y V. Ya. Tsvetkov, “Cognitive information models”, Life Science Journal Vol: 11 num 4 (2014): 468-471.

[13] WIPO (World Intellectual Property Organization) Portal. Retrieved from: https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/

The insufficient quality of graduate training does not suit employers and unclaimed vacancies remain in the labor market, while graduates are forced to look for jobs outside their field. As a result, education costs are spent ineffectively. According to the Rosstat, only 64.5% of university graduates in 2010-2015 received management positions or positions of the highest level of qualification[14]; the rest took jobs that they were overqualified for.

The qualifications obtained at university were used by an even smaller number of graduates: 28% of the surveyed workers with higher education did not work in their field. For male graduates, this figure was even higher and equaled 32%[15].

Even graduates of the top Moscow university NRU HSE did not always work in their field. 45% of the graduates of the Faculty of Economics participating in the survey said that their activities were poorly connected with the degree acquired at the university[16].

Number of Professionals with Higher Education

According to the OECD, 54% of the working-age population (aged 25 to 64 years) in Russia have higher or postgraduate education[17]. A similar percentage of university graduates in the working-age population can be found only in Canada, which is associated with their immigration policy. In Japan, this level equals 49%, but the level of technology in Japan requires even skilled factory workers to have a bachelor's degree. In China, this number is as low as 21%, which is natural, considering a significant share of manual labor in industry. However, for China, the problem of graduates' employment is also relevant.

An overabundance of low-quality specialists is distorting the labor market. On the hh.ru job search portal (accessed on in December 2018) for Moscow, 31 thousand job offers were posted for candidates with a university degree and 8 thousand offers for applicants with complete secondary education. At the same time, a completed higher education was required for the positions of sales manager and assistant manager. Most job offers did not distinguish between higher education and secondary professional education, which indicates the low prestige of a university degree.

This is also evidenced by the statistics of employment in the context of universities. Even for Moscow universities, the median distribution of the percentage of employment is 65% and from 64 to 20% of graduates of the half of all Moscow universities find employment in the first year of job search[18]. Thus, we can see a vicious circle: an excess of skilled professionals increases the requirements for the applicant’s degree, which leads to further inflation of the bubble.

The pension reform will also contribute to the problem of employing graduates, forcing employers to leave jobs to 60-year-olds instead of hiring young professionals.

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[14] Portal of the Federal State Statistics Service, section Statistics of the correspondence of the employees' qualifications to the work performed. Retrieved from: http://www.gks.ru/free_doc/new_site/population/trud/stat-izm.pdf

[15] Portal of the Federal State Statistics Service…

[16] Employment Monitoring Portal of the Ministry of Higher Education and the PFRF. Retrieved from: http://spo.graduate.edu.ru/booklet#/?year=2014&year_monitoring=2016

[17] The Organisation for Economic Co-operation and Development (OECD). Retrieved from: http://www.oecd.org/

[18] Employment Monitoring Portal…

Number of Professionals with Higher Education

The interest in e-learning in recent years has grown so much that classical educational institutions have begun to include online courses in their educational programs as a compulsory component[19].

E-learning becomes especially relevant in the context of the entry into force of federal state educational standards of the new generation and, associated with this, a reduction in the volume of classroom work, an increase, and expansion of the forms of students' independent work. On the one hand, e-learning opens up new possibilities for this. On the other hand, the standards impose rather stringent requirements on the electronic information and educational environment of educational organizations.

It should also be noted that the development of e-learning in the country requires quite serious methodological support in terms of creating technologies and implementation conditions.

Customer-Oriented Distance Education

E-learning requires a maximum focus on the customer from the university since the university has to compete not only with other universities in Russia but also in the international educational space with foreign universities that have many years of training with the help of information technologies and have graduated hundreds of thousands of professionals.

Today, at all levels of the education system, universities should provide an innovative educational environment, access to educational resources, primarily in the form of publicly accessible national libraries, electronic educational resources based on developments made in the particular country, and localization of the best educational resources from around the world.

We find it interesting to observe the cooperation of the Higher School of Service of the Russian State University of Tourism and Service with the enterprises of the Russian Space Agency (Roscosmos) in the organization of correspondence courses and distance education in the field of geoinformation service[20].

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[19] L. V. Sumzina y S. V. Shaytura, “Podgotovka kadrov po geoinformatsionnomu servisu”, Otkhody i resursy Vol: 4 num 3 (2017); S. V. Shaytura; A. M. Minitaeva; K. V. Ordov y V. V. Shaparenko, “Virtual enterprises in a spatial economy”, International Journal of Recent Technology and Engineering (IJRTE) Vol: 7 num 6 (2019): 719-724; S. V. Shaytura; K. V. Ordov; I. G. Lesnichaya; Yu. D. Romanova y S. S. Khachaturova, “Services and mechanisms of competitive intelligence on the internet”, Espacios Vol: 39 num 45 (2018); S. V. Shaytura; Yu. P. Kozhaev; K. V. Ordov; T. A. Vintova; A. M. Minitaeva y V. M. Feoktistova, “Geoinformation services in a spatial economy”, International Journal of Civil Engineering and Technology Vol: 9 num 2 (2018): 829-841 y S. V. Shaytura; M. D. Knyazeva; V. M. Feoktistova; T. A. Vintova; V. A. Titov y Yu. P. Kozhaev, “Philosophy of information fields”, International Journal of Civil Engineering and Technology Vol: 9 num 13 (2018): 127-136.

[20] S. V. Shaytura; A. M. Minitaeva; K. V. Ordov y V. V. Shaparenko, “Virtual enterprises; S. V. Shaytura; K. V. Ordov; I. G. Lesnichaya; Yu. D. Romanova y S. S. Khachaturova, “Services and mechanisms… y S. V. Shaytura; K. V. Ordov; I. G. Lesnichaya; Yu. D. Romanova y S. S. Khachaturova, “Services and mechanisms… y S. V. Shaytura; M. D. Knyazeva; V. M. Feoktistova; T. A. Vintova; V. A. Titov y Yu. P. Kozhaev, “Philosophy of information fields”…

The Russian State University of Tourism and Service provides training under the program of higher education of the academic undergraduate program, where the field of study is service, and the courses are focused on the geoinformation service. The program provides students with knowledge and skills in the field of information and operating systems, software, computer equipment, as well as practical work with various geoinformation resources[21].

In railway transport, specialists in the geoinformation service[22] monitor railway rolling stock, control the time they visit control points (zones), monitor the location and condition of goods, evaluate and forecast exogenous geological processes, and monitor emergencies in the areas of responsibility of railway infrastructure to create large-scale photographic plans of sections of the railway, while monitoring the condition of railway junctions and stations and vegetative cover along the railroad tracks.

At the same time, it is very important that geoinformation education starts from the school level and does not stop before the graduate gets a job[23]. Interest in space and geoinformation education must be instilled at school.

Discussion

Education Does Not Create the Skills That a Graduate Will Need in a Real Workplace

Despite the numerous reforms, university education is too far from the real tasks that graduates will have to face at the workplace. Employers are forced to spend significant funds on retraining before a young professional can begin to work. Therefore, in most cases, recent graduates need work experience to get a job.

Industrial practice takes too little time for a future professional to be able to acquire the necessary skills, and university practical classes are associated with professional activities only theoretically. The reform of education, so successfully carried out in South Korea, considered the communication of the business community with universities to be one of the most important tasks.

The most active students take care of their job hunt in advance. According to a survey of NRU HSE graduates, 25% of full-time undergraduate graduates had found a job even before graduating. For postgraduate students, this number exceeded 50%[24].

Thus, the problem of employment affects young professionals, employers, the state, and society. It was the reform of education that allowed the countries of Southeast Asia to make a significant breakthrough in the economy.

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[21] I. N. Rozenberg, S. O. Makarov, “Geoinformatsionnyi servis v zheleznodorozhnom transporte”, Slavyanskii forum Vol: 3 num 17 (2017): 150-156 y S. V. Shaytura y L. V. Sumzina, “Geoinformatsionnyi servis pri vybore marshruta shelkovogo puti”, Slavyanskii forum Vol: 2 num 16 (2017): 209-212.

[22] I. N. Rozenberg y S. O. Makarov, “Geoinformatsionnyi servis… y S. V. Shaytura y L. V. Sumzina, “Geoinformatsionnyi servis…

[23] M. D. Knyazeva, “Geoinformatsionno-obrazovatelnaya sreda dlya sovremennoi shkoly”, Slavyanskii forum Vol: 3 num 17 (2017): 298-308 y M. D. Knyazeva; E. M. Mitrofanov; S. I. Chumachenko y S. V. Shaytura, Avtomatizirovannaya obrabotka aerokosmicheskoi informatsii v pakete Erdas Imagine - Uchebnoe posobie (Burgas: IGNEIT, 2018).

[24] Employment Monitoring Portal…

The state and universities are involved in solving this problem.

Reducing the Number of Universities

Over the past three years, the number of universities and their branches in Russia has decreased by almost half, i.e. by 1,097 organizations. Besides, the government proposed introducing a quota for the number of budget-funded places, depending on the needs of the region. Such a decision will not be able to change the situation fundamentally since the prestige of higher education in the bulk of secondary school graduates is still quite high and the market for educational services from such measures will not decrease. This measure will transfer the cost of education to the population even more.

Transition to More Flexible Distance Computer Education

The transition to distance education allows the student to minimize the cost of training, listen to lectures by leading experts around the world, and combine education with work[25]. We can take the first distance education platform, Coursera, as an example. Due to it, anyone in any part of the world, regardless of income, can take courses at the best universities, such as Stanford, Princeton, and Columbia University. Created in 2012, Coursera had already gained 24 million users in 2017. However, then the number of users began to decrease. The fact is that registering for a course is too simple and no one controls further training. Besides, virtual laboratories do not develop practical skills.

The main advantage of electronic educational resources is multimedia content. Videos, animations, the ability to enlarge maps and active forms make the electronic textbook a convenient, versatile and interesting learning tool. Other advantages include low price, mobility, and variability[26]. It has been proved by modern practice that in electronic educational resources the aggregate of knowledge to be assimilated in the learning process is better structured and systematized, which facilitates the assimilation of this knowledge. Such a form of training can completely replace only the process of knowledge transfer, while the consolidation of skills remains questionable and the formation of a systematic way of thinking remains in question. The development of a student's creative thinking requires the implementation of complex artificial intelligence algorithms, so for modern educational resources, it is necessary to develop "integration" scenarios that include methods and techniques that develop creative approaches and stimulate the formation of personal qualities of the right level. In digital learning, knowledge control often comes down to analyzing the results of certain tests, since it is easy to algorithmize. The thinking style inherent in a digital training program or a remote process is mechanistic, sketchy, and pragmatic, that is, digital learning formulates the pragmatism of thinking. Besides, computer technology is inconvenient for considering the individual characteristics of the student's intelligence and temperament. When using a digital educational resource, the educational effect of communicating with the teacher disappears, which would allow us to speak not only about learning but about education[27].

[25] D. V. Denisov, “Obespechenie i otsenka kachestva”…; S. V. Shaytura, “Mezhdunarodnoe sotrudnichestvo…; S. V. Shaytura, “Problemy i perspektivy… y E. B. Volkova; I. A. Remennikova y E. A. Vecherinina, “Structural and Semantic Features of Three-Component Complex Sentences of Successive Subordination in Russian and Romano-Germanic Mathematical Texts”, International Journal of Engineering and Advanced Technology Vol: 8 num 4 (2019): 1086-1090.

[26] E. V. Romanov, “Trendy razvitiya vysshego obrazovaniya…

[27] V.Ya. Tsvetkov, “Worldview Model as the Result of Education…211-215

There is a danger that the widespread dissemination of modern-style training programs and the substitution of a teacher with these courses can lead to the loss of living thinking, as digital teaching aids fulfill only a part of the learning functions that can be algorithmized. Interactive communication with the teacher is present only to the extent that the developers of the program could provide it. At the same time, there is no emotional communication, group communication, the competitiveness of the learning process, and mastery of competencies.

With this approach, very specific thinking is formed. At the same time, it is difficult to develop such important qualities as

- the ability to think systematically,
- the ability to think strategically (several steps ahead),
- the ability to see not only opposed options ("yes" and "no"), but also intermediate options, moreover, taken in conjunction with additional factors.

Therefore, despite the obvious advantages, teaching with the help of educational information systems and applications cannot replace the full personal communication of the teacher with the student. With the help of electronic educational resources, a student can obtain specific knowledge and even put it into a certain system, but they will not establish informal associative connections (which give possession of the subject) precisely because it requires the technical intermediary to be able to think informally.

Conclusions

To sum up, it should be noted that given the growing demand for online training, greater attention should be paid to the development of modern training courses in the Internet environment, with emphasis on additional professional education (advanced training programs and professional retraining, master of business administration, etc.), since the target audience of consumers in this segment of educational technologies is most motivated to obtain the necessary professional skills in the format of online education. Online education allows one to adapt the implementation of educational programs to the needs of students of all categories (students combining study and work, simultaneously mastering several educational programs, students with disabilities, etc.) in terms of accessibility of the educational environment, without compromising the quality of training. This corresponds to one of the systemic priorities of state policy in the field of education, namely the development of the field of lifelong education, which includes flexibly organized variable forms of education and socialization throughout a person's life.

Effectively managed e-learning is one of the important factors in the innovative development of modern education in general and university education in particular. Balanced e-learning, complementing traditional learning models, should be a priority for the development of the education system in the context of globalization, massive "Internetization" and the socialization of services and technologies. E-learning, increasingly seen as the new education paradigm of the 21st century, is becoming one of the effective ways to overcome the isolation of the Russian education system.

In this regard, it is necessary to adjust the path of education informatization at the federal level, focusing on the creation of educational content on a professional basis, with

the main emphasis on the industrial production (with the participation of universities and development companies) of modern content of electronic educational resources that meet international standards and are oriented for the export of educational services.

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