The European Proceedings of
Social and Behavioural Sciences
EpSBS

www.europeanproceedings.com
e-ISSN: 2357-1330

DOI: 10.15405/epsbs.2020.10.03.128

ICEST 2020

International Conference on Economic and Social Trends for Sustainability of Modern Society

CIVIL SOCIETY PROJECT INITIATIVE IN FORMATION OF UNIVERSITY 3.0

I. V. Kovalev (a), A. A. Voroshilova (b)*, N. A. Testoyedov (c)
*Corresponding author

(a) Siberian Federal University, 79 Svobodny Ave., Krasnoyarsk, Russia, kovalev.fsu@mail.ru
(b) Krasnoyarsk Science and Technology City Hall, 61 Uritskogo street, Krasnoyarsk, Russia, krasnio@bk.ru
(c) JSC "Academician M F Reshetnev Information satellite systems", 52 Lenin street, Zheleznogorsk, Krasnoyarsk region, 662972, Russia, priem@iss-reshetnev.ru

Abstract

The article is devoted to the problems of the development of Russian higher education according to the model of University 3.0. A comparison of the development models of leading Russian and foreign universities is given. Russian project initiatives aimed at the development of civil society are considered as priority areas to ensure the implementation of the third mission by Russian education aimed at creating a highly intellectual environment motivated by social changes. The authors presented one example of social constructions, the creation of which makes it possible in Russian conditions to build elements of the University 3.0. These are the project initiatives of the Presidential Grants Fund for the Development of Civil Society. It should be noted that the fund has been the single operator of grants by the President of the Russian Federation for the development of civil society since April 3, 2017. It is shown that the social structure presented in the framework of the project initiative forms a separate element of the infrastructure at the stage of the establishment of University 3.0 for involving schoolchildren and students in initial productive activities. These schoolchildren and students, being participants in this activity, become individuals with identified specialized creativity, scientific research skills that can become carriers of complex high-level competencies. The type of such projects includes the creation of a mini-museum of inventions in the House of Science and Technology.

Keywords: Sociocultural environment, University 3.0, civil society, scientific and technical creativity.

https://doi.org/10.15405/epsbs.2020.10.03.128
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1. Introduction

The global goals and objectives of the development of Russian science and education for the coming years are indicated in the Decree of the President of the Russian Federation of May 7, 2018. They include ensuring the competitiveness of Russian education at the world level and Russia's entry into the five leading countries of the world in scientific research. Today it is already obvious that increasing the competitiveness of Russian higher education is possible only through the development of the University 3.0 model (Endovitsky et al., 2020).

In the works of modern authors (Karpov, 2017a; Karpov, 2018a; Kudryashova et al., 2020; Lane, 2013) University 3.0 is defined as a university performing missions training, research and socio-economic development. Most researchers are of the opinion that one of the main tasks of a modern institution of higher education is the ability to attract additional resources to support its activities through innovative teaching methods, establishing close interaction with industry and the business community, where university researchers develop their research. University 3.0 is characterized as a system-forming institute of a knowledge society, the concept of which not only determines the essence of progress in this area, but also prepares the protagonist of such a society, namely, a knowledge worker who has a set of key competencies and values to create a culture, social structure inherent in society, and division of labor.

Based on the fact that University 3.0 not only changes its character, but also fundamentally changes society, it affects two interrelated spheres of activity: innovative entrepreneurial and sociocultural, which affects all the basic components of a knowledge society, such as new industries, innovative ecosystems, promising technology markets, economically leading regions, culturally enriched environment (Lane, 2013).

2. Problem Statement

The analysis of the innovation and entrepreneurial sphere of universities' activities poses a number of challenges for researchers related to such areas of the university's activities as joint research, contracts with industry and business, commercialization of intellectual property, regional development, corporate training, consultations and expertise, etc. (Kuzu, 2020; Yong & Qiushi, 2020). The main task in the framework of sociocultural activity is the organization of interaction between universities with civil, cultural and administrative-territorial communities aimed at improving the quality of life, developing civil society, culturally enriching life and the environment, supporting traditional values and broadcasting new ones, etc. (Kogan et al., 2019). It is the innovative entrepreneurial and sociocultural areas of activity that belong to the third mission of the University 3.0, which distinguishes it from previous models, the main missions of which were only education and research (Yong & Qiushi, 2020).

3. Research Questions

To assess the success of Russian universities in the implementation of the third mission in their work (Karpov, 2018b), their parameters were compared with Western universities by significant indicators, which include patent registration, technology transfer, creation of innovative companies, and license income.

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As a subject under study, an example of creative local history coworking is considered - a mini-museum of inventions at the Science and Technology City Hall.

4. Purpose of the Study

The purpose of the work is to evaluate indicators that are directly related both to the field of activity of the university 3.0 and to the possibility of its development, since the country's competitive ability is one of the main tasks of the third mission, and a significant part of its parameters characterizes the prerequisites necessary for the effective implementation of all three missions. It is also necessary to evaluate the University Development Index (UDI) and present a picture of weaknesses in the prerequisites for the development of University 3.0 in Russia.

5. Research Methods

The study is based on the prognostic method of assessing the University Development Index, which links social, economic, cultural and institutional factors. The structure of this index is presented in the works (Karpov, 2017b; Karpov, 2018a). The main research methods in the framework of the applied project considered in the article are as follows: studying archives, collecting materials on the Internet in order to restore the life history of inventors who have made a significant contribution to the development of scientific and technological progress.

6. Findings

The choice of indicators that we use to assess the success of Russian universities in the implementation of the third mission is based on the methodology presented in the work (Gaisenok et al., 2018). It is important to compare these parameters with the ones that characterize Western universities. We will carry out the comparison according to significant indicators, which will include patent registration, technology transfer, creation of innovative companies, as well as license income. These indicators are directly related both to the field of activity of the University 3.0 and to the possibility of its development, since the country's competitive ability is one of the main tasks of the third mission, and a significant part of its parameters characterizes the prerequisites necessary for the effective implementation of all three missions.

UDI, which for some countries characterizes the prospects of its creation, and for others the resources for improvement, is a predictive design linking social, economic, cultural and institutional factors. The structure of this index is presented in the work (Karpov, 2018a).

The picture of weaknesses in the prerequisites for the development of University 3.0 in Russia is demonstrated by the fact that Russia, being the fifth largest economy in Europe, did not enter the Reuters Top 100 innovative universities in the region in 2017, while Germany has 23 representative, Spain - 11, Belgium - 6, Ireland - 3, Poland - 1.

In the work (Karpov, 2018b), countries that have the best positions in the first four regional groups - Switzerland, Singapore, Israel, Chile, and the United States are taken for comparison. As a result of comparing the main parameters of the index, we can state that Russia lags behind these countries in the

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following indicators: in higher education and vocational training; labor market efficiency; level of technological readiness; financial market development. In innovation and R&D, Russian universities are not significantly ahead of only Chilean universities.

By indicators such as opportunities to attract and retain talent; accessibility, assimilation and technology transfer Russia is significantly inferior to all the leading countries of the regions (Karpov, 2018b). Russia surpasses only Chile in the overall quality of the educational system, in mathematics and science, in the cooperation of universities with industry and in R&D expenses. By such an indicator as the opportunity for innovation, it practically coincides with it.

However, as shown in (Karpov, 2017b), high creativity, which is a cultural feature of Russians, can become the institutional basis of the movement towards university 3.0. In existing university 3.0 models, one of its three basic components is creativity. Then a creative university as a social construction can be built in Russia. It can become a fulcrum on the path to the implementation of a universal model of a modern university, the fundamental structure of which will be a set of creative spaces of a process-environment type, each of which is a specialized cognitive-generative system that stimulates the manifestations of creativity and the development of the creative function of thinking by combining educational activity with cognitively active medium (Ewalt, 2017).

One example of social constructions, the creation of which makes it possible to build elements of the University 3.0 in Russian conditions, is the project initiatives of the Presidential Grants Fund for the Development of Civil Society. The Fund has been the single operator of grants by the President of the Russian Federation for the development of civil society since April 3, 2017.

In December 27, 2018 in the Kremlin, President of the Russian Federation V.V. Putin held a meeting of the State Council on the development of volunteerism and socially oriented non-profit organizations. This topic was first given attention at such a high state level. The meeting was attended by the Prime Minister, chairmen of the Federation Council and the State Duma, the leadership of the Presidential Administration, plenipotentiary representatives of the President in the federal districts, deputy prime ministers, federal ministers, and heads of all regions of the country. An important topic of discussion was the support of socially oriented non-profit organizations. The President proposed to simplify the procedure for obtaining the status of executors of socially useful services for NGOs. The Presidential Grants Fund has already supported nearly 7,000 NGO projects. The system here is fair and, most importantly, transparent. It is immediately clear on what grounds the grant was received what practical results were achieved. The President said that it would be right if NGOs that had won grants and had successfully implemented their projects, they would automatically receive the status of an executor of socially useful services without excessive formalities, because, understandably, they had already proved their worth by business.

In addition, in his speech V.V. Putin asked the heads of the constituent entities of the Federation to use the fund's experience in conducting public, open competitions so that as many non-profit projects as possible aimed at developing civil society could receive financial support not only at the federal, but also at the regional level. Another proposal of the President was the training of civil servants and employees of state institutions in the skills of effective interaction with NGOs and volunteers, which indicates the importance of the topics raised for the development of social entrepreneurship. The President also called

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on the governors to join socially significant projects in the regions and to show by personal example the importance of volunteering, to help develop socially significant project initiatives.

One of the projects that was supported in the framework of the second contest of the Presidential Grants Fund was the project of the Krasnoyarsk Science and Technology City Hall to create a creative local history coworking “Mini Museum of Inventions”. The project was selected among 2022 winners from 9 843 participants of the competition within the framework of the grant direction “Preservation of historical memory” and received a high rating.

Creative local history coworking is a project to create a virtual and real Mini Museum of Inventions through the use of modern creative technologies. The project is based on the creation of the Mini-Museum of Inventions by the schoolchildren through the study of the history of discoveries born in different years on the Siberian Earth by scientists and specialists from leading enterprises. The project is intended for young people: schoolchildren and students, since this is the target audience that today may lose value landmarks of the heritage of past achievements of Russia, including in the field of development of high-tech industries, in some of which Russia still occupies thanks to its inventors and innovators leading positions. Krasnoyarsk is developing projects to promote invention in the youth environment, so the creation of an active museum of inventions will facilitate the involvement of students in the activities of scientific and technical societies and the regional branch of the All-Russian Society of Innovators and Inventors.

The main idea of the project is to study archives, collect materials on the Internet in order to restore the life history of inventors who have made a significant contribution to the development of scientific and technological progress. During the project, informational stands about scientists were made, interactive 3D models of inventions were developed, historical information on the significance of inventions for the development of the industry of the region was formed. The created 3D digital models of inventions and biographies of scientists are placed in the virtual Museum of inventions, and the made stands make up the Museum's exposition in the Science and Technology City Hall.

The project was carried out by schoolchildren under the guidance of undergraduate students and experienced innovators, which made it possible to realize the idea of creating a group of volunteer mentors. During the implementation of the project, open lectures and master classes for schoolchildren on 3D modeling, patent search, inventive and rationalization activities, the development of science and technology, and the National Technological Initiative were held. During the study of inventions, students had to understand the laws of physics, mathematics, chemistry in order to understand the essence of the invention. Using modern interactive technologies to create “do-it-yourself” exhibits allowed students to learn the basics of digitalization in order to further apply them in their work. Thus, the project implements the idea of creating not just a museum, but a coworking - that is, a platform for active teamwork and discussion.

The new message that the project is intended to convey to the school and student audience: “Create a museum and save your memory with your own hands, using the latest digital technologies.” The interpretation and presentation of the exhibits of the mini-museum, created by the students themselves, carries an educational concept for improving scientific knowledge and mastering new information technologies. Due to the development of the project, a new format museum of science and technology will

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be created. The proposed technology for creating exhibits with our own hands through the use of 3D technologies corresponds to the modern era of digitalization, while this involves studying the history of inventions, expanding knowledge in physics and chemistry to understand the essence of the invention. This technology of the active involvement of the audience in the creation of the museum will be in demand and used by other museums that are interested in using active teaching and enlightenment methods, replenishing the museum's funds through digitalization.

As part of the development of the project initiative, one more project of the Science and Technology City Hall, supported by the Presidential Grants Fund, called the Small Space Odyssey (SSO), should be noted. This is a project for students, the author of which is a pilot-cosmonaut, Hero of Russia Alexander Lazutkin. The leading enterprises of the rocket and space industry of Russia will be involved in the implementation of SSO. These are JSC ISS, TsKB Geofizika, JSC Krasnoyarsk Machine-Building Plant, leading universities in Krasnoyarsk, the Krasnoyarsk branch of the Union of Russian Machine-Builders, the Siberian Regional Search and Rescue Unit of the Russian Emergencies Ministry, Russian cosmonauts and veterans of Rocket-Space Industry (Testoedov et al., 2018). In the framework of the project, students will gain knowledge in the field of astronautics history, space rocket technology, they will be engaged in inventive and research activities according to a specially developed program, and they also perform special "flight" tasks for studying Planet X, which will be verified by cosmonauts.

Excursions to the rocket and space industry enterprises of the region, meetings with astronauts and industry veterans, and many other interesting events, including the special project "Survival after landing on another planet", were organized for project participants. "Small Space Odyssey" is a project for scoolchidren in grades 7-11. Teams organized in schools under the guidance of teachers or parents will be able to take part in it. Students living in remote areas will be able to take part in the project thanks to distance educational technologies. Thanks to the support of the grant, the lecture hall of the coworking zone of the Mini-Museum of Inventions will be equipped with new modern technology, which will allow for the conduct of on-line webinars.

Experience shows that on the basis of the created social structures that are presented in this paper, elements of university infrastructure can also be developed effectively, especially within the framework of the organization of master's training (Lazowski & Hulleman, 2016). In particular, the Science and Technology City Hall is actively working with students, attracting students to volunteer for ongoing projects, developing new educational programs. Thus, implementing a grant from the Vladimir Potanin Foundation for the Development of Civil Society, Professor I.V. Kovalev leads the initiative group to develop a new master's program "Software Engineering and Cybernetics", according to which in 2021 studies will begin at the Siberian Federal University. The main specifics of the master's program is its applied character, focus on design and research activities, patenting training and learning the basics of intellectual property protection. Thanks to the support of the Russian Union of Scientific and Engineering Public Associations, for the past three years, the best graduate students of the Siberian Federal University, who are actively involved in social, scientific and technical initiatives, receive a personal scholarship of Vladimir Shukhov who was a prominent Russian engineer famous all over the world (Drukarenko, 2019).

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7. Conclusion

Thus, the Mini Museum of inventions, as a social construction, forms a separate element of the infrastructure at the stage of the establishment of University 3.0 for involving schoolchildren and students in initial productive activities. These schoolchildren and students, being participants in this activity, become individuals with identified specialized creativity, scientific research skills that can become carriers of complex high-level competencies. Creative local history coworking will contribute to the identification of such a person, and this will happen at the stage of school and university education, based on the results of a long-term social project carried out in a professional environment, which include the creation of a mini-museum of inventions in the Science and Technology City Hall, a new project Small space odyssey and events for the organization of master training for students of the Siberian Federal University.

Acknowledgments

The studies were carried out with financial support from the Presidential Grants Fund and the V. Potanin Foundation, as well as with the assistance of the Russian Union of Scientific and Engineering Public Associations.

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