Transformation of the higher education system: current and emerging global trends

Elena Mirgorodskaya, Svetlana Sokolova, Tatyana Kuzmina, and Maria Shkuratova

1 Don State Technical University, Rostov-on-Don, Russia
2 Moscow State University of Civil Engineering, Yaroslavskoye sh., 26, 129337, Moscow, Russia
3 Pyatigorsk Medical Pharmaceutical Institute – branch of the Volgograd State Medical University, Pyatigorsk, Russia

Abstract. In the context of unfolding global processes of post-industrialization, informatization and the growth of knowledge components of economic development, the higher education system as an element of the economic and cultural compound of the countries and states acts as a moderating medium between all socio-economic subsystems of modern society. With the impact of global processes, the national higher education system assesses and neutralizes global risks, where it is possible, and creates sustainable trends of their effective adaptation. Regardless of the devotion level of the regional educational system and regardless of the priorities of the state educational system, it is impossible to exclude diffusion of the trends, tendencies and the global technologies. That is why, for the higher education systems of countries, the transformation of higher education systems in these conditions involves the adoption of a special model of such transformation – converged, which allows to identify the most dynamic, effective and relevant processes of change and to detect on this basis the main objectives of transformation and mechanisms for its implementation.

1 Introduction

Actually, the system of the higher education is under considerable impact of global processes and risks, which force it to assess and neutralize them, if it is possible. At the same time the higher education system is forming sustainable trends of effective adaptation to the dynamic processes of coordination, informatization, unification.

The subject area of this study is the higher education system in terms of converged

* Corresponding author: maria-shkuratova.pmfi@yandex.ru

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2 Materials and methods
3 Results

The increasing importance of the challenges of globalization requires rethinking of their impact on the educational systems of states and needs their incorporating into the system of organizational strategic decision-making to carry out the converged transformation of higher education systems. The modern global economy makes the request for state education systems and provoke as a consequence their unfolding transformation.

The network and technological modernization of the global economy have changed the essence of integration and regionalization. The openness and flexibility of network structures have significantly aligned the level of access of different countries to development sources. This made it much easier for convergence mechanisms to spray them with simultaneous replication.

Convergence from the political process in the 20th century has turned into a socio-economic process in the 21st century, naturally leading to the transformation of socio-economic systems. Consequently, the converged transformation, more precisely transformation built on rapprochement, ensuring the preservation of own identity, is the most preferred model of evolution and development in the global economic space. This statement completely refers to the transformation of the higher education systems. Educational activity is "global" activity, shaped simultaneously in global, national and local spheres [11]. Therefore, it is indeed important to understand the trends and tendencies that are typical of the global educational space in order to model and then politically and institutionally to shape an effective system of higher education as well as an organizational model of universities’ development.

The empirical analysis revealed the main list of trends and tendencies emerging within the global socio-economic processes typical of higher education systems:

1) the prompt growth in the number of educated people by 2100 and the entry of developing and emerging markets into the status state-drivers of education;
2) the digitization of the learning process and the subsequent transition to "mobile learning" through the gamification of learning, the changing factors of supply and demand in the educational services market in the context of educational technology (EdTech) diversification (online platforms, open online courses, etc.), the use of blockchains to evaluate and verify learning results;
3) the formation of a national and global competency market due to the shift of criterion factors to the assessment of its qualifications in the direction of competences, skills and abilities to perform specific work functions, explained by the formation of a digital society;
4) the targeting of national educational markets on an international learning format and an international format of research cooperation through coalition forms of interaction.
Based on the quantitative indicators of the trend of population growth with higher education, it is possible to formulate and confirm with analytical data the new axis of educational mobility by 2050, which will shift to the countries of Asia, Africa and Latin America (Fig. 2).

Determining the volumes and directions of academic mobility flows suggests that designated countries gravitate towards the trend of prioritizing globalization. The analysis showed that students from West Asia and Oceania consume educational products and services from all regions of the global economy: from developed countries, and from developing, geographically close and geographically distant. This is an extremely important fact, as these countries will become the main consumers in the global market for educational services by 2050.

The development of the digital economy and new technologies require the development of digital solutions. The formation of the digital culture among students and the consolidation of their knowledge, competencies and skills already during the implementation of educational programs becomes significant. The loyalty to the digital technologies and...
the education landscape, which is characterized by the predominant role of these factors: the shift in requirements from skilled labour to a competent labour resource, the acquisition of competencies that go beyond educational institutions, and the integration into the global scientific and academic network. However, access to these educational institutions is limited, and the capacity of regional educational systems is inadequate. As a result, the educational system is no longer the only provider of skills. The educational system is no longer the only provider of skills.

The analysis of the frequency of educational technologies presented in the global landscape shows that the most popular technologies are accelerators, online courses, and administrative platforms. These technologies are used in the field of higher education management, as well as in the formation of training plans, peer knowledge exchange, interactive learning, and administrative procedures. However, it is worth mentioning that it is in the group of less common technologies that the main weaknesses of the education system lie. The prevalence of these technologies is primarily in the infrastructure, technological and organizational frameworks of higher education systems. Technologies such as artificial intelligence, big data, and blockchain are being used in the field of education, starting with clusters of knowledge and skills, and finishing by more advanced technologies, such as predictive analytics, data science, and machine learning. These technologies are used in the field of education, starting with clusters of knowledge, and finishing by more advanced technologies, such as predictive analytics, data science, and machine learning. These technologies are used in the field of education, starting with clusters of knowledge, and finishing by more advanced technologies, such as predictive analytics, data science, and machine learning.

The essential goal of the Global Learning Landscape project is to present an overview of the educational system in the context of global trends of unification and integration, as well as to identify the main priorities for the development of the global education system. The project aims to provide a collateral indicator of priorities for the development of the global education system. The educational system is no longer the only provider of skills, only to ensure their own competitiveness, but also in development as such. Employment requires a positive network effect. The development of the education landscape, which is characterized by the predominant role of these factors: the shift in requirements from skilled labour to a competent labour resource, the acquisition of competencies that go beyond educational institutions, and the integration into the global scientific and academic network.

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goals and objectives. By and large, the actual competency market requires each employee to characterize their employment with missions and responsibilities taken on an individual basis and to evaluate their performance on the basis of performance indicators.

Today, there are a number of lists in the world that define the range of competencies in the exercise of work: The OECD Global Competency framework from 2016, which goes beyond the DeSeCo approach; The P21 framework (US framework – Partnership for 21st century learning); The World Economic Forum framework (2015); The Council of Europe Competences for Democratic Culture (2016); The UNESCO Global Framework of Learning Domains (developed 2012/2013).

Currently, within the scope of the project of the OECD "The Future of Education and Skills 2030" is presented the OECD "Learning Compass 2030", where special attention is paid to "Transformative Competencies for 2030". The document states that in order to create innovative thinking, responsibility and knowledge among young people, it is necessary to focus on the formation of three additional competences, which have the meaning of "transformative" and can be used throughout the life, namely: creating new value, reconciling tensions and dilemmas, taking responsibility.

Based on the analysis of the lists of competencies presented, it is possible to distinguish the dominant trends that determine the vector of converged transformation of the higher education system in the context of the implementation of the requirements of the modern labor market:

- the tendency to clarify competence as an element of educational standards and, at the same time, professional standards and to specify its role and its place in assessing the achievements of graduates;
- the tendency of new labor requirements: besides the specialized competencies, now it is necessary to develop flexible business communication skills (soft skills), T-shaped skills, involving a combination of deep specialization in a particular field with interdisciplinary skills that could guarantee the group work in related professional fields.

The global paradox of modern scientific and educational systems is that world leaders in this field are simultaneously focused on cooperation and competition. The general tendency of the globalization of highly effective national higher education systems like in USA, UK, France, Germany, Canada led to the fact that they have acted for a long period as "recipient systems" for each other and as "donor systems" for many liberal countries. At the same time, such collaboration has increased competition in innovation and led to increased investment in R&D in general, from 722 million dollars USA in 2000 to 2,2 trillion dollars USA in 2017, which demonstrates the growing value of science-intensive research and the understanding that only R&D projects can provide answers to emerging challenges in healthcare, environment and safety.

Analysis of the publishing activity of leading scientific databases showed that more than 60% of publications are accounted for by the researchers from United States and China, by a large margin are UK, Germany, Japan, India, Russia and South Korea (Fig. 3, 4).
From this we can conclude that today both the leading consumers and suppliers in the educational services market are the United States and China. China's significant breakthrough is due to a long-term national strategy for the development of higher education, which according to the projects 98/5 and 21/1, is focused on raising research and education standards to a world-wide level [19], significant increase in R&D spending over the past 20 years [21] and the general tendency of international cooperation in higher education between China and Europe [12], China and the United States [22].

Today, the tendency of international scientific cooperation is losing the property of "universal" cooperation and becoming focused on cooperation with Chinese researchers, despite the political rhetoric in which China recognizes an economic competitor in the pursuit of technological leadership [15].

These global trends and tendencies are becoming a challenge to the transformation of the higher and professional education systems within national economies around the world. This is due to the fact that in general the educational system is a buffer zone between households and the labour market, but it is in the higher education system that the highest potential is laid down in the possibility of modelling the vector and speed of development of socio-economic systems.
4 Discussion
5 Conclusion

The domain of the HE, as a main core in the process of production and broadcast of knowledge, has acquired a special status of a regulator and moderator of the socio-economic processes of the macroeconomic system due to the fact that it is the sphere where the human capital is formed, and its value is determined by the self-capitalize ability. For a long time, the challenges of globalization set the direction and speed of transformational trends in all countries and in all spheres of activity. The growing importance of these challenges today requires a rethinking of their role in the development of the economy and society, their incorporation into the system of making organizational strategic decisions.

Based on the postulates of evolutionary theory, it can be assumed that the outcomes of transformation can result in at least two vectors: progress and regress. Regress is not a sustainable state and is contrary to the concept and goals of sustainable development of the United Nations. From the standpoint of the concept of sustainable development, the transformation of global subsystems based on the convergence of technologies, cultures, economic models is safer in comparison to the integration. The outcome of the integration...
The nature and outcome of integration changes in accordance with the type of technological order that dominates in a particular national state system. The experience of the 20th century and the latest experience of the 21st century confirm the objectively existing risks of erosion of national identity and national interests during the dominance of global integration processes if one of the participants in the integration process has absolute advantages in technologies and the level of development of production systems, and if the other one (others) significantly lags behind in a number of parameters. In this regard, convergent transformation is safer and more transparent because permits to adapt the development trajectories of participants to the global tendencies and trends, taking into account national interests.

The circumstances of the pandemic confirm that convergent transformation allows the higher education systems of countries to determine their own preferred attractors of development trajectories, taking into account the existing ones in the global economic space. With convergent transformation, there is no substitution, but the integration of the elements of the economic system, which avoids transformational shocks and ensures a smooth, though discrete, development path. In the long term, it is this form of transformation that will allow building the process of evolutionary changes based on the exchange of best practices and, at the same time, jointly overcoming the negative sides. The exchange of best practices is initiated from the technological aspects, since it is the technology that provides the very possibility of convergence of economic mechanisms.

Therefore, it should be understood that the transformation process of a particular system is carried out not so much in a spontaneous form, but in accordance with the centralization of transformations. This feature of the implementation of this process in the educational system of society is determined by its historical role and concepts of state development.

References


