

**SCTCMG 2021****International Scientific Conference «Social and Cultural Transformations in the Context of  
Modern Globalism»****DEVELOPING RESISTANCE TO THE CHALLENGES OF  
HIGHER EDUCATION SUSTAINABILITY IN COVID-19  
CONDITIONS**Lyudmila Olegovna Ternovaya (a)\*, Igor Sergeevich Voznesensky (b),  
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125319, Russia, tanyarss@mail.ru**Abstract**

The prerequisites of the study underlying this paper were the growing threats and challenges to the security of society, including the security of education in general, and universities in particular. The purpose of the study is to identify the leading directions of the transformation of the educational process in higher education, which may significantly increase its flexibility, which simultaneously meets the needs of introducing flexible management in the economy and social sphere, as well as the trends in the development of creative potential and the resulting need to improve talent management approaches. These areas include the transition to a non-linear model of education, the introduction of transdisciplinary methods, and the expansion of openness and creativity of the educational process. The main methods of study were the analysis of the situation formed in higher professional education, which was fundamentally changed in the conditions of the coronavirus pandemic, the study of trends in the development of higher education by Russian and foreign authors, observation and a pedagogical experiment conducted by the authors in 2020 as part of the educational process at Moscow Automobile and Road Construction State Technical University (MADI). As a result of the study, the most promising directions for the development of non-linear and transdisciplinary forms of higher professional education were noted, new forms of higher educational process and the teaching methods corresponding to them were identified, which were tested at the MADI Department of Sociology and Management and could be introduced into the practice of other higher educational institutions.

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## **1. Introduction**

A higher education model resistant to various challenges requires a shift to flexible management of all the entire educational process. This corresponds to the needs of society in such management. In October 2019, in the report *Flexible Management for the Creative Economy* the experts from the World Economic Forum (WEF) noted the importance of progressive regulation – more adaptive, people-oriented, which was explained by two factors: the development of technologies that lower the threshold for entering the creative business, and the cross-border capabilities of the Internet that allow attracting a huge number of customers (Agile Governance, 2019). Such steps are inconceivable without a radical transformation of higher education.

In the training of engineering staff, this turn is especially significant. The information and innovation revolution radically changed the nature of engineering. Modern specialists require not just new knowledge, but the presence of self-consciousness, reflecting constant changes in technology, while having serious foundations in socio-cultural and political spheres.

## **2. Problem Statement**

The main problem that led to this study is the expansion of the range of threats and challenges to the security of society, including the security of education in general, and universities in particular.

## **3. Research Questions**

Existing scientific developments and the practice of organizing the educational process at the university prove that the strict regulation of the educational process, unlike the non-linear organization of the educational process, cannot meet the spirit and goals of flexible management more resistant to various kinds of challenges (Zborovsky, 2016; Zborovsky & Ambarova, 2016).

## **4. Purpose of the Study**

The purpose of the study was to determine the leading directions of the transformation of the higher educational process that may increase its flexibility, which corresponds to the tasks of flexible management in the economy and social sphere, as well as the trends in the development of creative potential and the consequent need to improve approaches to talent management. Such areas include the transition to a non-linear model of education, the introduction of transdisciplinary methods, and the expansion of openness and creativity of the educational process.

## **5. Research Methods**

The main methods of study included the analysis of the situation within higher education, which fundamentally changed in the conditions of coronavirus infection, the study of trends in the development of higher education by Russian and foreign authors, observation and a pedagogical experiment related to the transfer of education to a remote format due to the COVID-19 pandemic, which was conducted by the

authors in 2020 at the Moscow Automobile and Road Construction State Technical University (MADI) and revealed both the educational interests of students and the willingness of the university to resist the challenges of sustainability of higher education.

## 6. Findings

The non-linear model of education, which resource base is clearly dominated by human capital, mobilizes a wider range of resources than traditional learning models. The abandonment of higher education from linear trajectory reveals the advantages of the new approach, which includes active work of enterprises with universities through the introduction of corporate training programs in the curricula of universities, competitions and olympiads, and in direct inclusion of the representatives of the economy into staff training programs. Non-linear education does not imply directive control of the educational process, which prevents the university from connecting with the external environment narrowing the space of academic mobility. Such disadvantages are minimized in the transition to non-linear forms of learning.

The reserves of the non-linear model of higher education are also found in the fact that it relies on scientific and educational knowledge as a fundamentally new type of knowledge that gives the studied disciplines an innovative character. In addition to links between the subjects of the curriculum, the non-linear organization of higher education allows developing new forms of classroom and extra-curricular activities. The process of learning is filled with new topics and forms of work: cases and learning quests, etc. Master classes, maker festivals, summer hackathons, schools became the organic part of the educational space. Since with a nonlinear model there is a significant saving of the most important resource – time – it contributes to the development of not only emotional, but also temporal intelligence of both students and teachers.

The ability to learn together with the need for self-actualization are probably the most significant for the development of the creative potential of the society (Florida, 2002a; Grünzweig, 2016). The peculiar “flight” of the creative class, about which R. Florida wrote (Florida, 2002b), corresponds to the flight of knowledge carried out on the basis of transdisciplinary teaching methods. The number of interdisciplinary studies and courses at universities is increasing. This reflects the tasks of staff training of various profiles, including in the following directions: “Personnel Management” implemented at the MADI Department of Sociology and Management.

The study of subjects that make up the training field of “Personnel Management” reveals trends in the expansion of the role of the human factor in increasing the production efficiency. This requires social, natural and technical sciences to work with knowledge. At the same time, the intersection of disciplines from the personnel management cycle with: economic sciences, primarily the labor organization; social sciences studying a wide range of issues of the sociology of labor; psychology that reveals the specifics of human labor behavior; political sciences that present political processes and institutions able to influence an individual’s choice of labor priorities; law governing labor relations.

The MADI master course also provides training in “Human Resources Management”. The interest in this problem and the need for training are caused by increased international competition in labor markets, which has developed in the context of the breakdown of those vectors of global processes that

arose at the initial stage of globalization and developed over several decades. Approaches to human resource management reflected the progress from the classical understanding of human resources of the industrial era to the reliance on human competence (Efendiev, 2019). An employee is not only seen as a source of costs and expenses that generate income or investment, but rather as human capital, as the organization is known to be an essential intangible asset, its valuable and sometimes unique potential for innovation.

One of the leading international specialists in the field of human capital and talent management Cappelli (2008) insists on taking into account the need to transfer the speed of economic processes to the field of personnel. His views on the acceleration of development processes correspond to the situation in the international labor market, where there has been a sharp increase in labor mobility. Talent management is expanding the use of different forms of labor in the workforce planning process. There is more space for unconventional forms of attraction to labor: outsourcing, outstaffing, selection of temporary personnel, and use of “remote labor”.

Since the field of education was among the areas that required instant action due to the COVID-19 pandemic, all recommendations to specialists in order to expand the use of digital educational platforms were urgently needed. This revealed new trends in the development of university education in the world provoked or accelerated by the pandemic. Such trends include the following:

1. increasing financial difficulties associated with falling incomes of higher educational institutions; damage caused by the campus model of teaching and student life as a certain type of management with the involvement of local businesses and participation of students themselves in the business processes; impact of the virus on club forms of student activity.
2. limiting academic mobility, which is one of the ancestral features of university reality (Souto-Otero, 2013).
3. changes in the scientific component of university life, which gives higher education an innovative character due to the difficulties of maintaining the spirit of a scientific school on a remote basis.
4. weakening of social networks around a person receiving higher education, and, as a result, the loss of impulses fueling student corporatism.

There appeared a number of positive trends along with alarming trends:

- first, the expansion and strengthening of online education platforms is taking place, which forms a completely new global educational environment;
- second, the contours of a future educational organization have developed, in which, inter alia, the role of the Tutor Institute is growing (Gardner, 2007);
- third, the “third mission” of universities is being intensified, consisting in increasing the contribution of the educational institution to the development of society, increasing its public role (Adamsone-Fiskovica, 2009; Balmasova, 2016; Khagurov, 2011);
- fourth, there is an increasing awareness of the importance of psychological support for students and university staff, setting up a system of mental health services for online format (Pedrelli, 2015).

## 7. Conclusion

The comparison of both negative and positive vectors of higher education development in the post-covid period is significant not only for the system of highly qualified staff training, but also for the whole society and the state. There are changes in people's attitude to their health, increased dependence on the global information network, and growing distrust of the world around them. During the pandemic, the digital dimension gained exceptional scope thus becoming for students almost the only means of communication with the educational institution. At the same time, it should be recognized that there are both undeniable advantages of remote transfer of knowledge, the surrogate nature of group work, the impossibility of realizing those tasks that are built taking into account the human component and the multilayering of the communication space of the educational institution.

Education, and mainly higher education, acting as the most important institution of socialization, is designed to help a student mobilize a wide range of competencies in his life, including readiness and ability to study independently. The test for mastering this competence was the transition to distance learning during the peak periods of the COVID-19. In these conditions, it was necessary to improve the methodology for organizing the educational process. A variety of communicative practices were introduced into the training process at MADI. Since the highest burden fell on forms of homework, it emphasized creative components: writing essays, letters, reviews to a book or a movie, in which the subject is close to the materials of the educational discipline, etc. Almost inexhaustible reserves of distance learning methods were revealed, which can be successfully combined with classroom work. The results of this practice are reflected in a series of scientific articles and educational and methodological developments.

The experience gained by the entire Russian higher school and MADI, in particular, in the context of COVID-19, is gaining special value due to the development of the Strategic Academic Leadership Program (SALP), which will support national research and national support universities, as well as the second-wave national project *Science and Universities*, which will include the federal project *Human Capital Development for Regions, Industries and Research and Development*. Each university will be able to contribute to the implementation of these federal programs, in which new forms of social engagement of teachers and students, distance education, technology transfer, participation in the content of the decision of the "third mission" of universities have been developed.

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