

DIGITAL HUMANIZATION OF EDUCATION IN THE LIGHT OF GEOPOLITICAL CHALLENGES

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Abstract. *The article examines systemic conditions and important determinants of the humanization of higher education in the light of crucial geopolitical challenges. Complex analysis of the international background of educational humanization is provided on the basis of world rankings given by international network of universities for European countries. The research discloses the most highlighting tendencies towards modern knowledge and education system in the conditions of innovation progress, digital transformation and sustainable development. The analysis reveals logical coherence between humanization, national education, and economic growth. The role of humanization of education is also considered, taking into account the requests of the world labor market, that shapes the most demanded personal criteria in different occupation areas. The concept of human-centrism of the educational system and its components are presented towards economic, geopolitical, digital and environmental discourse. It is concluded that higher education in EU and Ukraine quickly responds to crisis situations and becomes a necessary foundation for comprehensively overcoming the relevant challenges. The research represents authors' vision on the issue of digital humanization of education and reveals its empiric model.*

Keywords: *digital humanization of education, environmental discourse, geopolitical challenges, humanization of education, investments, labor market, ratings*

Introduction

Since the beginning of 2022, European countries have faced with serious geopolitical challenges shaping the existing models of foreign policy, economy, national security and territorial integrity. It became a pivotal time for the transformational processes, global shifts, and comprehensive rebuilding of the international economic environment, including key areas of intergovernmental support. To be more specific, EU member states and Ukraine came across fundamental case, which would determine not only their future path of development, but also their strategic place and role in the global order.

Considering the promising advantages of Ukraine, namely human capital, geographic location, natural resources, it is important to define the driving forces for the future innovation leap. In fact, that means encouraging competitive industrial sectors with high added value allowing the production of high-quality goods and services. Moreover, such innovative manufacturing implies social orientation and responsibility. This crucial objective could not be achieved without an effective education system, focused on a human-centered model of the society development.

Modern researches gave rise to the idea of “humanizing” education as a key accelerator for social and economic development in the era of digital globalization, informational explosion and geopolitical transformation. On the one hand, humanization of education affects its overall quality, setting the most important values of humanism, democracy and civic position (Shutaleva et al., 2019). On the other hand, such humanization contributes to the formation of human-oriented understanding of the future professional activities, whichever industry alumni work in (Zagorodnya et al., 2020). Also worthy of mentioning are range of scientific papers that explore the issue of educational humanization in the context of digital transition and online learning (Mehta & Aguilera, 2020; Golz et al., 2019; Juhary, 2022). The above-mentioned authors claim for a new human-oriented pedagogical paradigm that concerns innovations, technological expansion and irrevocability of a mixed online-offline learning. There is no doubt digitalization is observed as one of the most crucial forces for the educational development, that implies the necessity of its humanization (Polikarpova et al., 2020). In addition, humanization of education addresses the most important economic requests caused by current agenda on climate, ecology, social inclusion, fair market relations etc (Shanks, 2020). Finally, humanization of education impacts humanization of a global economy, because it overcomes the most dangerous ideological trap that “instead of economic education we have economic indoctrination or ideology disguised as science” (Blazevic, 2019).

Despite extensive survey of the mission of educational humanization in the international scientific discourse, the exploration of its external and internal environment remains particularly important.

The research aim is to outline and investigate the formative imperatives of the humanization of education in the era of digital transformation, considering complex discourse of geopolitical, technological and climate challenges of modern society.

Methodology. The methodological framework of the study is based on a comprehensive exploration of quantitative indicators for evaluating the modern education system, given by different world rating systems. In addition to that, qualitative indicators are based on practical experience and empirical studies of models and global scenarios for the development of the educational environment. The research map covers the countries of Europe. Particularly, the analysis focuses on the problems of the EU member states and Ukraine as an active player of the modern geopolitical space and forward-looking member of the EU community. The study uses general scientific methods as well as a number of specific methods of research, namely: scientific abstraction, comparison, grouping, systematization, graphical, statistical, economic and logical analysis.

Research results

The national system of higher education of Ukraine, which has developed today, continues to change due to the global trends. Through the profound modernization policy, Ukrainian education system takes promising position in the world educational rankings, but it is not a final point, especially in comparison with education systems in the leading countries of the EU and global space.

The results of the global ranking of national higher education systems reveal that Ukraine takes 36th position in U21 Ranking of National Higher Education Systems, while the USA, Switzerland, Denmark, Singapore occupy the leading positions (QSTopUniversities, 2022).

It is worth noting that above-mentioned ranking is calculated according to the methodology of the Institute of Applied Economic and Social Research of the Melbourne University in partnership with Elsevier, and evaluates national higher education system within 24 performance indicators arranged into four groups:

- 1) resources (investments from the private and public sectors) - 25%;
- 2) results (scientific research, scientific publications, compliance of higher education with the needs of the national labor market, including further employment of graduates of educational institutions) - 40%;
- 3) connections (the level of international cooperation, demonstrating the degree of openness or closedness of the higher education system) - 10%;
- 4) environment (state policy and regulation, educational opportunities) - 25%.

Results of the ranking are represented in the table (Williams, 2022).

Table 1 The results of the ranking of national higher education systems in some European countries in 2020 (by the approach of Williams, 2022 and GDP statistics by statista.com)

Position in the ranking by the level of Index	Country	Index	GDP per capita, thou.\$
2	Switzerland	90.1	91.9
3	Denmark	85.7	68.0
5	Sweden	84.3	61.0
6	United Kingdom	83.6	46.5
8	Finland	82.8	53.7
10	Netherlands	81.6	57.8
11	Norway	80.5	89.2
12	Austria	82.2	53.6
13	Belgium	75.6	51.2
16	Germany	70.5	51.2
17	France	68.6	43.7
23	Spain	58.6	30.1
30	Italy	54.5	35.7
32	Poland	52.6	18.0
33	Hungary	51.3	18.7
36	Ukraine	47.8	4.8
37	Greece	47.4	20.2
43	Croatia	43.6	17.7
44	Romania	43.0	14.9

The table above summarizes not only institutional performance indicators for higher education development (resources, environment, communication and results), but also reflects country’s position in terms of its level of GDP per capita.

Thinking this way, we assume the development of high education encourages the global economy and this tendency will be relevant in the context of humanization of education. This correlation is outlined in the figure bellow (Fig. 1).

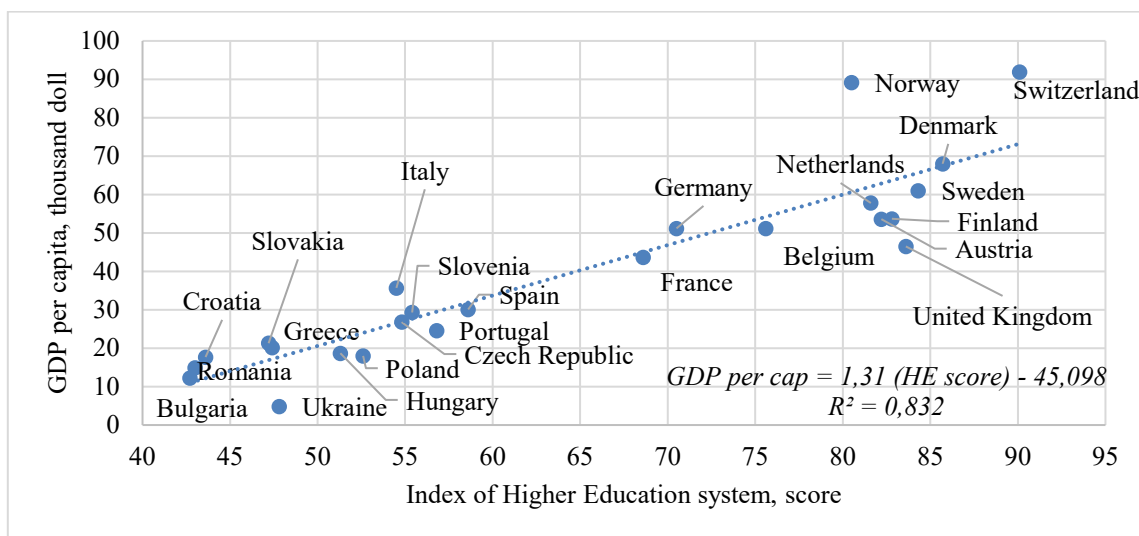


Figure 1 Correlation linkage between Index of Higher Education and GDP per capita (authors’ calculations)

The diagram above depicts the strong correlation between level of higher education and GDP per capita in different European countries. Consequently, the following important statements could be provided.

First, humanization of education encourages overall educational development, which in turn affects GDP growth. It is worthy to admit that such economic growth could be considered as sustainable and human-oriented. Roughly speaking, average growth of country's educational position up to 1 score impacts GDP rising up to 1.3 thousand dollars per capita.

Second, taking into account both educational Index and GDP level, the leadership in ranking passes to Finland, Great Britain and Denmark. In these countries, the given scores mean that overall performance indicators are about 20 percent higher the average level of educational achievements comparing with countries from the same GDP level.

Third, given correlation is both direct and reverse. Thus, its "formula" is especially important for the countries with comparatively low level of higher education and GDP per capita. This statement could be provided by the example of Ukraine. The results of the ranking of national higher education systems show that Ukraine's 36th place combines 27th place in resources, 39th place in environment, 38th place in communications and 42nd place in results. To be more specific, Ukraine takes 6th place in terms of public spending on higher education as a percentage of GDP. However, the level of R&D spending remains only at 46th position. In the sphere of communications, Ukraine ranks 18th in joint scientific publications by industry, but only 46th in knowledge transfer. The country ranks 35th in co-publishing with international authors and 45th in knowledge sharing with business. The level of GDP per capita in Ukraine is the lowest in Europe. We have to admit the overall in all these indicators due to the Russian-Ukraine war. Therefore, humanization of higher education could be considered as one of the key driver for social-oriented economic development and future recovering.

However, one more digital imperative should be disclosed due to the formation of a positive humanization environment. For a long time to the beginning of the Industrial Revolution, technological shift in educational sphere was not considered as a key factor for social development. However, the acceleration of both innovation and investment processes contributed to the positive social attitude towards knowledge and education. While modern society could be described as a "digitally dependent" and "loyal to the digital", scientists claim that safe technologies and human-oriented digital transition could be created only through humanizing education and intelligence culture (Arbidane et al., 2021).

This important digital imperative is considered in the following educational ranking of European countries. Education Level Index is given by the United

Nations Development Program and provided by University21. It measures the country's achievements in terms of the length of study (Figure 2).

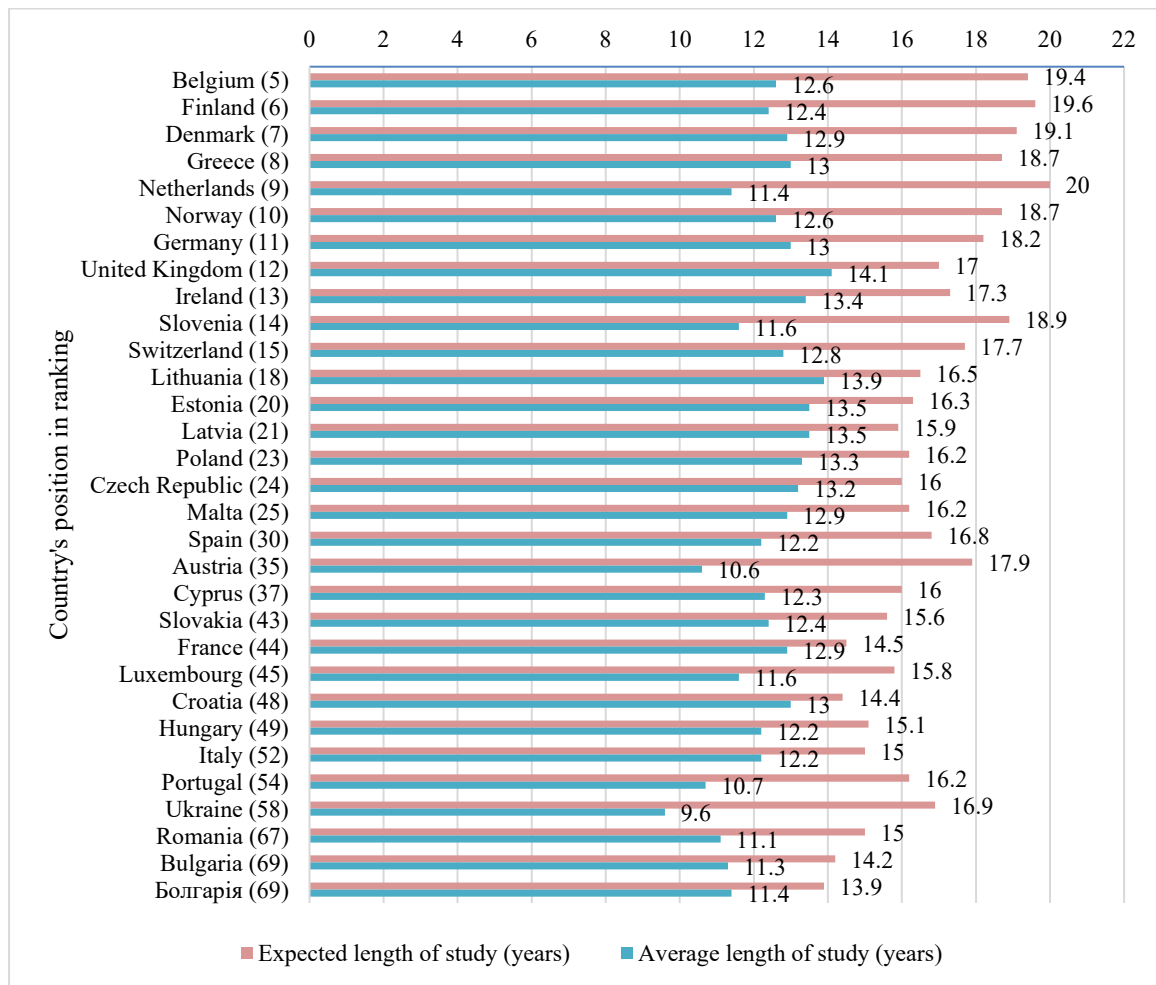


Figure 2 Rating of countries in the world by level of education (Universitas21, 2022)

The analysis shows that the leading positions are occupied by countries with the longest expected years of educational process. Traditionally among European countries, Sweden, Belgium, Finland, Denmark and Greece take the highest positions, while Italy, Portugal, Ukraine, Romania and Bulgaria show significantly lower results according to Education Index 2022. Based on the integration prospects, Ukraine faces an urgent need to rebuild the entire system of the national education in terms of its adaptation to European standards.

Thinking about modern education system and its humanization, the current conjuncture of the global labor market should be considered, because employers are one of the most influential stakeholders. Traditionally, labor market is shaped by the employers' needs and demand for labor. Moreover, some professional areas remain the most popular for many years mostly due to the digital awareness, data

explosion, technological transformation and innovation. By the end of 2021 the most eligible occupations were the following (QSTopUniversities, 2022):

- "Computer science and information systems";
- "Technique and technology";
- "Business and Management";
- "Medicine";
- "Economics and econometrics";
- "Law";
- "Mechanical, aviation and industrial equipment";
- "Architecture";
- "Art and design";
- "Accounting and Finance".

In fact, the significant attention to these professions reflects social reaction on current global challenges. However, the supply-planning at the educational environment should focus not only on the preferences of applicants, but also on the demand of employers as stakeholders. In 2022 Manpower Group presented the most demanded occupation areas by global industries (ManpowerGroup, 2023):

1. IT-sphere and Data analytics.
2. Marketing and sales area.
3. Transport and logistics.
4. Secondary industry and manufacture.
5. Work with clients (managers, consultants etc.)

Each industry implies a fairly wide list of occupations. It is expected this demand will rise at least twice by 2025.

In addition to the above, the following "soft skills" are distinguished in terms of the formation of specialists in human-oriented society (Figure 3).

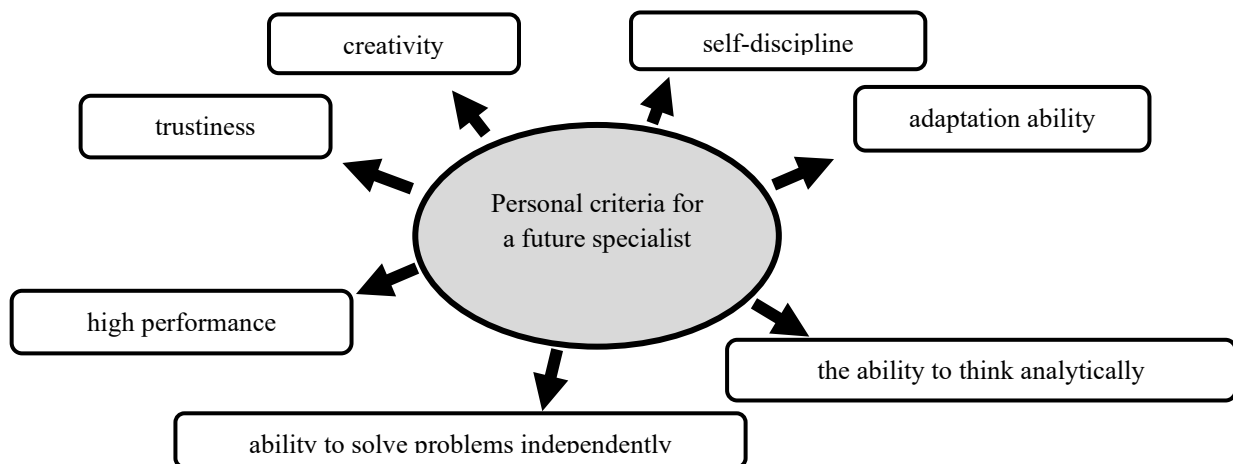


Figure 3 Personal criteria ("soft skills") for a future specialist (ManpowerGroup, 2023)

At the same time, McKinsey Global Institute highlights three key skill sets that contribute to career building in the era of humanization. (Dondi et al., 2021):

1. Higher cognitive abilities. These include advanced literacy and writing, critical thinking, quantitative analysis, and statistical skills. They are used by doctors, accountants, analysts and writers.

2. Social and emotional skills. These include improved communication, empathy, adaptability, and the ability to continually learn. Business development, programming and consulting need these skills. These jobs are also among the best jobs for the next ten years.

3. Technological skills, that include everything from basic to advanced skills in IT, data analysis and engineering. These future skills are likely to be the highest paying ones.

The research confirms the greatest demand for the professions in IT sector and software, medicine, ecology and climate change, financial services. To ensure the competitiveness of specialists, modern higher education must provide the analytical skills of the digital society (Kulishov, 2023).

Also, special attention of academic community and stakeholders is given to the issues of climate education, particularly, climate management of modern industries. To be more specific, climate oriented competencies lie in the plane of human oriented paradigm. Thus, it becomes an important component of modern education in terms of sustainable development. This trend is risen by the global implementation of climate-neutral strategies: the Long-Term Ecological Strategy 2050, the EU Climate Neutrality Roadmap to 2050, the world's first European Climate Law, as well as integration of green and digital transition programs and projects (Maksymova, Kurylyak, 2022). There is no doubt, education system should quickly respond to such important requests, because educational institutions are considered as providers of human oriented changes.

Besides, the OECD predicts that the global amount of university alumni will double, reaching 300 million by 2030 (OECD, 2019). Organization for Economic Cooperation and Development maintains the idea of enlarged investment in higher education worldwide, since it ensures economic well-being, national resistance and the long-term strategy of economic development. The new paradigm of modern higher education requires direct investment for rapid leap from "Education 1.0/2.0/3.0" to the digital standards of "Education 4.0".

Thinking this way, the development of higher education implies digital humanization and implementation of a human-centered approach in the conditions of digital transformation.

The human-centered model is outlined at the next scheme (Fig. 4).

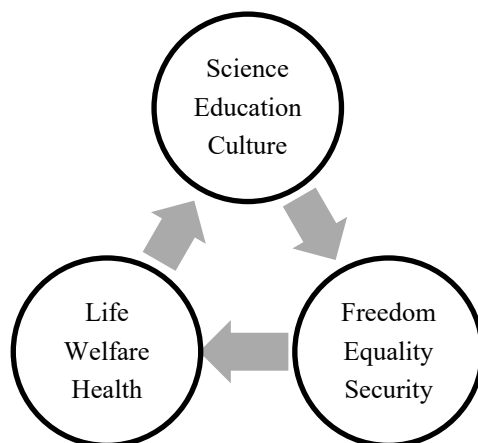


Figure 4 **Human-oriented model of the development** (rethinking Zhilinska et al., 2017)

Digital humanization of education is observed as a background of a human-oriented model of the development. Thus, digital humanization implies a process aimed at comprehensive individual development based on creativity, cognition and communication in the context of digitalization of the economy and society.

Moreover, digital humanization is the most important characteristic of the educational process that integrates the levels of -bio, -techno, -eco etc. and explains how to organize the educational process in the conditions of a real-virtual space. The humanization of education is the basis for the implementation of sustainable development goals at regional and national levels, because it promotes the formation of the generation with innovative thinking (Din et al, 2021).

The authors' vision of the digital humanization of education is represented at the following scheme (Fig.5).

According to the model, the digital humanization of education provides the synergy between technological inclusion of the educational process and the system of a versatile thinking of its participants. In this framework, the digital component is an accelerator of qualitative changes in education system, namely technical development, flexibility, and adaptability of the educational process. In other words, digital technologies open up new opportunities for human-oriented learning, that is able to meet geopolitical challenges and empower the applicants with diversity of thought and skills. As a result, such model contributes to the following important aspects:

- strengthening humanization of educational relations;
- encouraging innovation;
- individualization and practical orientation;
- development of a technological culture of education and its fair differentiation.

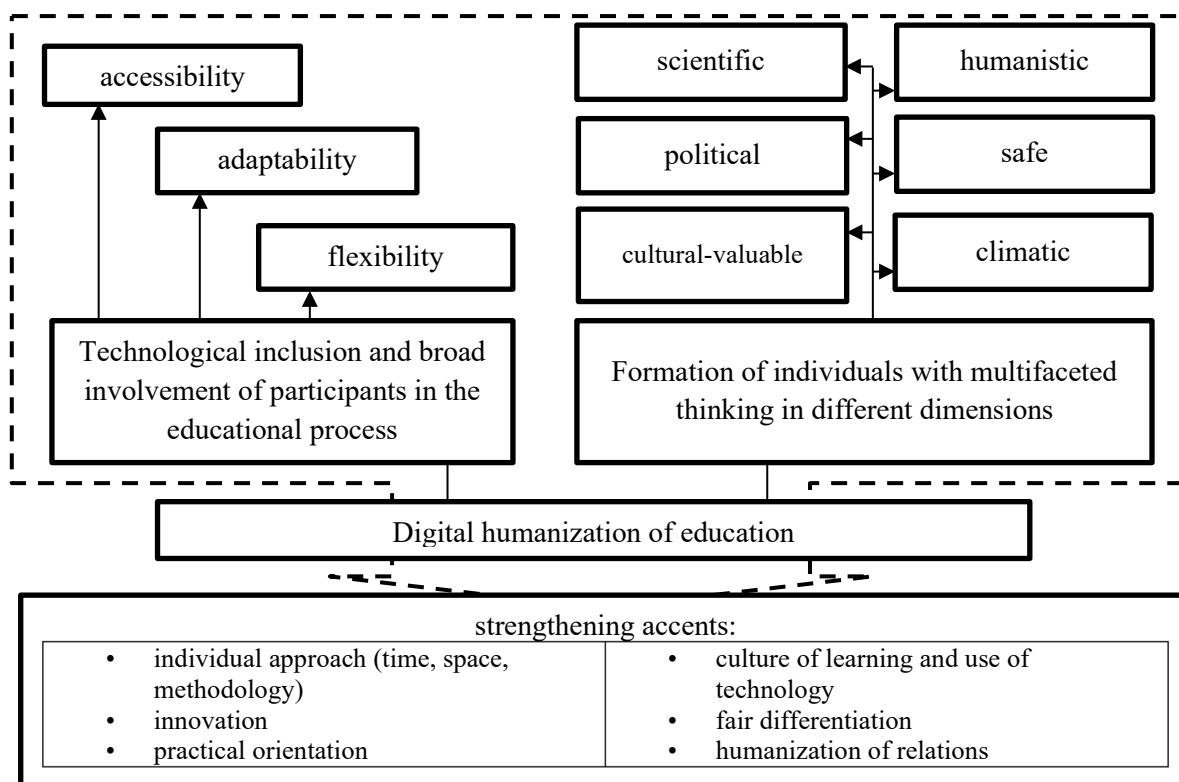


Figure 5 Model of digital humanization of education (authors' development)

Digital humanization is a key element of innovative thinking, that shifts the focus of the educational process to a new level, where both teachers and students are the “subjects” of the development of their creative individuality in real-virtual environment.

In addition, digital humanization involves the formation of hybrid reality of the educational environment, in which the teacher-student takes place at the intersection of the IT capacities and the global need for obtaining human-centered professional competencies. In this system, the educational instructions act as a provider for positive trends that are the most valuable for the society.

Conclusions

Considering modern geopolitical challenges for the countries of EU and Ukraine, humanization is considered in coherence with educational development and economic growth. Moreover, humanization of education encourages overall educational development, which in turn affects GDP growth. Such economic development could be considered as sustainable and human-oriented.

In the context of geopolitical challenges, the need for human oriented education is constantly growing. This requires the purposeful activity of society to create material, technical, organizational, economic and social conditions for effective and comprehensive background for a digital humanization of education.

The digital humanization of education is considered in terms of creating conditions for self-affirmation, self-expression and self-regulation in the digital space in order to ensure comprehensive and divisive development. Digital humanization of education provides the synergy between technological inclusion of the educational process and the system of a versatile thinking of its participants.

Humanization empowers all the participants of education system with needable skills for addressing economic, geopolitical, digital and environmental cases. As a result, such approach encourages the generation with human oriented values by the principles of availability of education, digital awareness, sustainable development, climate neutrality and global inclusion.

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