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## Higher education as a determinant of sustainable development

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### ABSTRACT

The purpose of the article is to study higher education using a systemic approach as a determinant of sustainable development. To achieve the goal, the scientists substantiated the main features of higher education as a system; identified the main priority directions in the field of higher education in a time frame; outlined the functions of education in the modern development of society; highlighted the role and principles of higher education in economic growth; substantiated the relationship and development trends of higher education with the goals of sustainable development in the direction of solving global problems of humanity. The methodological basis of this study is a systematic approach, which allows us to consider higher education as an open social system with multi-vector and heterogeneous connections between elements, which has an interdependent impact on sustainable development. Taking into account changes in trends and priorities of the world economy, changes in the emphasis of higher education are highlighted. It has been studied that higher education ensures the development of the intellectual potential of the human community, contributes to the achievement of the goals of sustainable development and the consolidation of certain moral principles.

KEYWORDS: Higher education, sustainable development, education, Economics.

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## La educación superior como determinante del desarrollo sostenible

### RESUMEN

El propósito del artículo es estudiar la educación superior desde un enfoque sistémico como determinante del desarrollo sostenible. Para lograr este objetivo, los científicos fundamentaron las principales características de la educación superior como sistema; las principales áreas de prioridad en el campo de la educación superior se destacan en un marco de tiempo; se esbozan las funciones de la educación en el desarrollo moderno de la sociedad; se destacan el papel y los principios de la educación superior en el crecimiento económico; se fundamenta la relación y tendencias de la educación superior con las metas del desarrollo sostenible en la dirección de la solución de los problemas globales de la humanidad. La base metodológica de este estudio es un enfoque sistemático, que nos permite considerar la educación superior como un sistema social abierto con conexiones multivectoriales y heterogéneas entre los elementos, que tiene un impacto interdependiente en el desarrollo sostenible. Teniendo en cuenta las tendencias y prioridades de la economía mundial, se destacan los cambios en el énfasis de la educación superior. Se ha estudiado que la educación superior asegura el desarrollo del potencial intelectual de la comunidad humana, contribuye al logro de las metas del desarrollo sostenible y la consolidación de ciertos principios morales.

**PALABRAS CLAVE:** Educación superior, desarrollo sostenible, educación, Economía.

### Introduction

Globalization trends of world development testify to the growing global problems of human development. The existence of humanity requires new views on the environment, ecosystem, social relations and more. General world trends, threats and risks include social production, cultural and spiritual development, scientific and educational sphere, etc. Globalization challenges are becoming determinants of the way of life of mankind, determine the directions of organization and management at the level of states and all other economic actors.

These and other reasons continue to raise the profile of the paradigm of sustainable development and the search for new vectors for resolving global crises. The paradigmatic orientation of human existence for twenty years is aimed at achieving the goals of sustainable development, which provides for the harmonious development of economic, environmental and social components of society.

Education is important for sustainable development, as it is crucial for the perception of sustainable development, enabling humanity to solve existing problems through the careful use of natural resources and improving the quality of life.

The aim of the article is to study higher education, using a systematic approach, as determinants of sustainable development. To achieve this goal:

- the main features of higher education as a system are substantiated;
- the main directions of priority of the direction of higher education in the temporal section are singled out;
- the functions of education in the modern development of society are outlined;
- the role and principles of higher education in economic growth are highlighted;
- the interrelation and tendencies of higher education with the goals of sustainable development in the direction of solving global problems of mankind are substantiated.

## 1. Literature Review

Many scientists have devoted their research to the development of higher education and increasing its competitiveness, including as determinants of sustainable development. Among the leading scientists, it should be noted: Acosta Castellanos P. (2022); Cosmulese C. (2019); Djakona A. (2020, 2021); Elmassah S. (2022); Griebeler J. (2022); Grosu V. (2021); Janssens L. (2022); Kholiavko N; (2021); Popelo O. (2022); Lazarov A. (2022); Liu Y. (2022); Martínez Casanovas M. (2022); Sánchez-Carracedo F. (2022); Severino-González P. (2022); Veidemane A. (2022); Wright C. (2022); Zhavoronok A. (2021) and other.

The authors of the study (Janssens, 2022) argue that the transition to sustainable development requires the involvement of university students in transformational learning. Researchers believe that quality frameworks and processes should support deep approaches to sustainable development in higher education. The article notes that although the transformational learning approach to sustainable development is not explicitly mentioned in most quality assurance systems, many contain opportunities to highlight it.

The article (Veidemane, 2022) analyzes that more and more higher education institutions are trying to implement the principles of sustainable development in their education. The authors found that it is becoming increasingly important to identify indicators that can measure institutional contribution in a meaningful and internationally

comparable way. Researchers have explored opportunities and challenges for developing internationally comparable indicators in the higher education sector.

The authors of the research (Severino-González, 2022) substantiated the need to create a scale to measure students' perceptions of social responsibility developed by higher education institutions in terms of sustainable development goals. Scientists believe that the four-dimensional constructs can be used to develop strategies that contribute to the goals of sustainable development.

The aim of the article (Sánchez-Carracedo, 2022) is to determine how much university students believe that they have received a good education for sustainable development. The authors propose a methodology that allows to quantify this perception.

Researchers (Martínez Casanovas, 2022) have researched which active learning methodologies best contribute to the acquisition of competencies for sustainable development in higher education. The authors used cluster analysis to identify models of students' skills and their perceptions of the various active learning methodologies conducted in the classroom to promote sustainable development. The authors of the research propose to implement active learning methodologies in general and real experience, problem-based learning and case studies, in particular, in education for sustainable development.

The purpose of the research (Griebeler, 2022) is to analyze the extent to which sustainable development goals are considered in higher education institutions, as well as to propose and test the possible adoption of a list of indicators to assess the contribution of higher education institutions in achieving sustainable development goals.

The authors of the study (Liu, 2022) argue that assessing and prioritizing the quality of higher education services is an important issue for the successful implementation of education for sustainable development. To demonstrate the effectiveness and reliability of the proposed measures, the researchers used the example of five Chinese higher education institutions in the field of maritime transport.

Researchers (Elmassah, 2022) believe that higher education institutions should play a fundamental role in achieving the international sustainable development agenda by 2030. The authors presented the results of an analysis of applied research on the role and successful methods of higher education institutions in achieving sustainable development goals in three countries, namely Germany, Japan and Egypt. Researchers have proposed a new framework

for analysis and evaluation that directs higher education institutions and their leaders to support sustainable development goals.

The authors of the scientific work (Lazarov, 2022) analyze the barriers and challenges that higher education institutions in Romania need to overcome in order to include education for sustainable development. According to the study, the authors provide recommendations on factors that can contribute to the sustainability of higher education in Romania. Scholars believe that the approach is holistic and adds value to the literature in this area, especially because so far research on sustainable development goals in Romanian higher education has focused only on specific factors.

The article (Wright, 2022) proves that higher education institutions are not isolated from the challenges facing the planet and are tasked with being key stakeholders in sustainable development. The authors suggest that when higher education institutions align their institutional capabilities with global efforts to achieve the 2030 Sustainable Development Goals and promote deliberate collaboration, they will be better prepared to address their own unique challenges.

However, despite the significant number of publications, the issue of higher education as a dominant factor in sustainable development needs further research and practical recommendations.

## 2. Methodology

The methodological basis of this study is a systematic approach, which allows higher education to be considered as an open social system with multi-vector and heterogeneous links between the elements, which has an interdependent impact with sustainable development. The general features of the system of higher education include:

firstly, the multiplicity of multi-vector elements that have close interrelationships and a single focus, which makes it possible to focus efforts on achieving sustainable development goals;

secondly, integrity, which makes it possible to obtain a greater effect from the overall system than the sum of its individual elements;

thirdly, the stability that is rebuilt as a result of constant reproduction after bifurcation shifts caused by heterogeneous instability factors.

### 3. Results

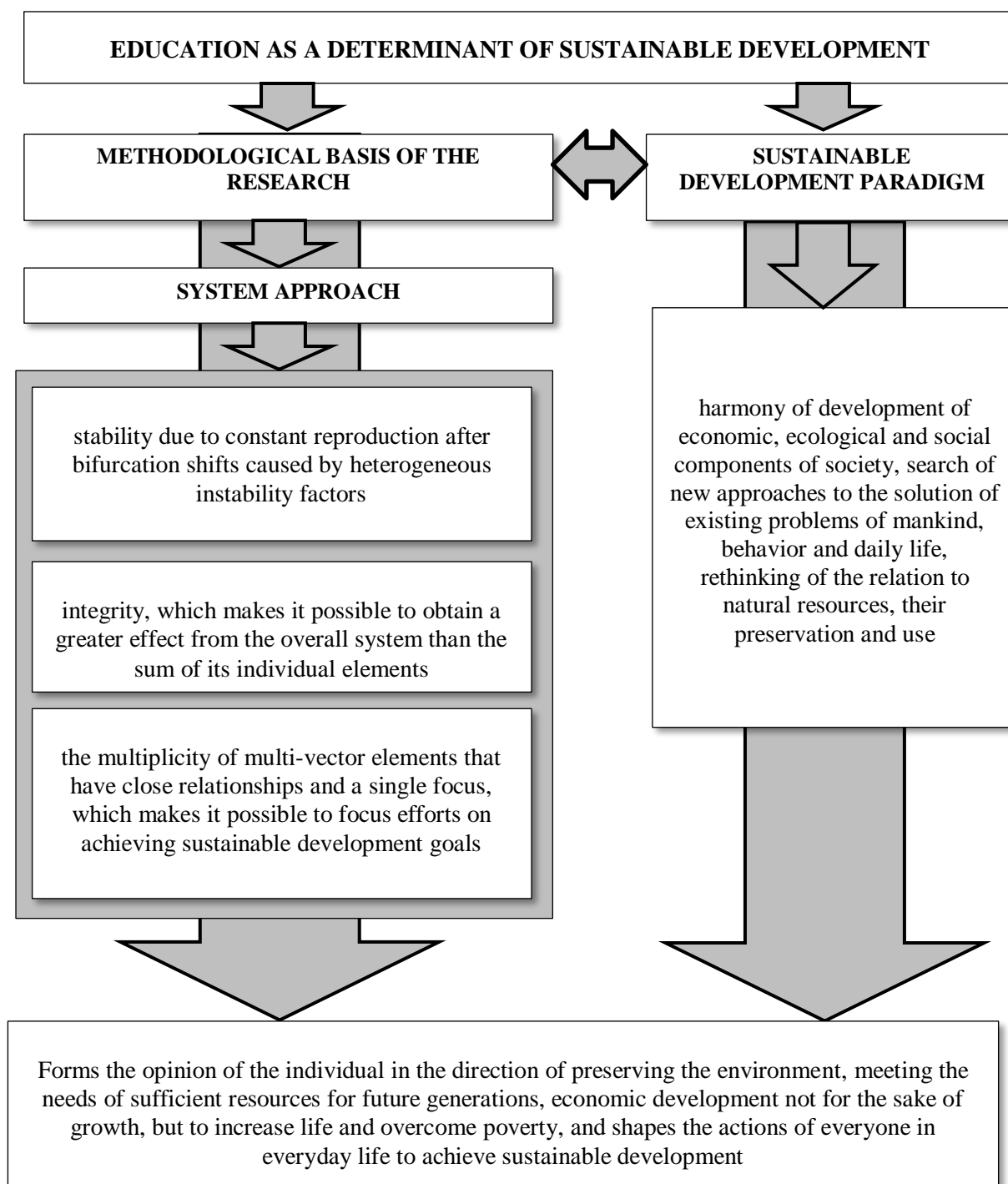
Education at any level influences the understanding of the importance and necessity of the paradigm of sustainable development as a basic concept of development of the global economy and the participation of each entity in it. Forms the opinion of the individual in the direction of preserving the environment, meeting the needs of sufficient resources for future generations, economic development not for the sake of growth, but to increase life and overcome poverty, and shapes the actions of everyone in everyday life to achieve sustainable development (Fig. 1).

Higher education plays a special role in achieving the goals of sustainable development. Educational programs at all levels should include the principles of sustainable development, its goals and the importance of achieving them. This leads to the formation of education in the interests of sustainable development in the process of continuous and continuous learning and training and competencies.

With the changing trends and priorities of the world economy, the emphasis of higher education is changing. So, for the last half century it is possible to allocate the following directions:

- 40-60s - the focus of education on specialists capable of working in the field of armaments, ensuring military and technical leadership of countries;
- 70-90s - in addition to the previously mentioned goals of specialists who can ensure the leading positions of countries in the military-technical sphere, emphasis is placed on training specialists who can increase economic development, increase the competitiveness of key areas of production. The development of education is aimed at improving the quality of intellectual capital, the importance of which becomes dominant in relation to the contribution of land capital, and labor costs in economic growth;
- the 90s and until today - changes in the formation of specialists in the direction of training specialists capable of solving a range of socio-economic and environmental problems. The priority of training specialists in scientific, innovative and technical spheres is changing in the direction of ensuring the priority of sustainable development, development of the information sphere, ensuring the environmental friendliness of production, etc.

Figure 1. Methodological basis for the study of education as a determinant of sustainable development



Source: built by the authors

The role of education is increasing with the growing influence of scientific, technical and innovative factors on the development of countries. At the same time, human capital is becoming a determinant of economic growth. In economic development, labor is replaced by



knowledge, because knowledge is involved in the processing of resources and their production and use, as a result of which knowledge, not labor, becomes a source of value. With the change of forms of production there is an expansion of employee functions, requirements for increasing its universality, acquiring competencies for the ability to creatively analyze and synthesize large amounts of information, understand the essence of the problem and make informed and creative decisions.

Higher education performs a number of functions which include:

- humanistic, because the acquisition of knowledge by a person is aimed at providing higher education with certain knowledge that promotes self-realization, broadening horizons, highlighting the need and directions of achieving sustainable development, forms human spirituality and worldview, values and moral principles;

- axiological, ensuring the creation of value as a result of higher education as a person and the creation of value for society, the separation of nature and varieties of values, which include the values of environmental protection and other values of sustainable development;

- socio-cultural, in accordance with the cultural values of mankind, the acquisition of knowledge about the culture of their meeting and its place in the culture of other peoples, contributes to the socialization of the individual and the succession of generations;

- socio-adaptive, adaptation to professional activity and adaptation in society, development and formation of the individual as a person, subject and individual;

- social and mobile, gaining a role in the structure of human interaction, including in professional activities;

- innovative, formation of competencies for intellectual, creative, research and innovation activities;

- social integration, integration in both educational and research activities, integration of knowledge and practical activities, increases human potential for integration into world economic processes, provides a mandate to world values, achievements of science and technology;

- prognostic, ensure the professional growth of the individual, reveals the essence of future specialization, promotes future professional growth.

Today, higher education is a global factor in human development, expanding its tasks to train professionals capable and interested in active participation in socio-economic life,

able not only to critically and reasonably assess the situation, but also to adapt to social change, think creatively, generate new ideas and implement them, produce the transformation of socio-economic processes taking into account environmental orientation, show creativity and initiative in cooperation with society.

Investing in education leads not only to economic growth, but also to the rationalization of growth, taking into account the use of innovative means to achieve it, taking into account the principles of sustainable development.

Higher education is an important social tool of social development, which creates:

- conditions for the formation of social ethical values and norms of socio-economic development;
- decent attitude to the environment and other individuals, respect for the views and rights of others;
- basis for observance of the principles of democracy, justice, security of life;
- tolerance and mutual respect between ethnic, religious, cultural and other groups, etc.

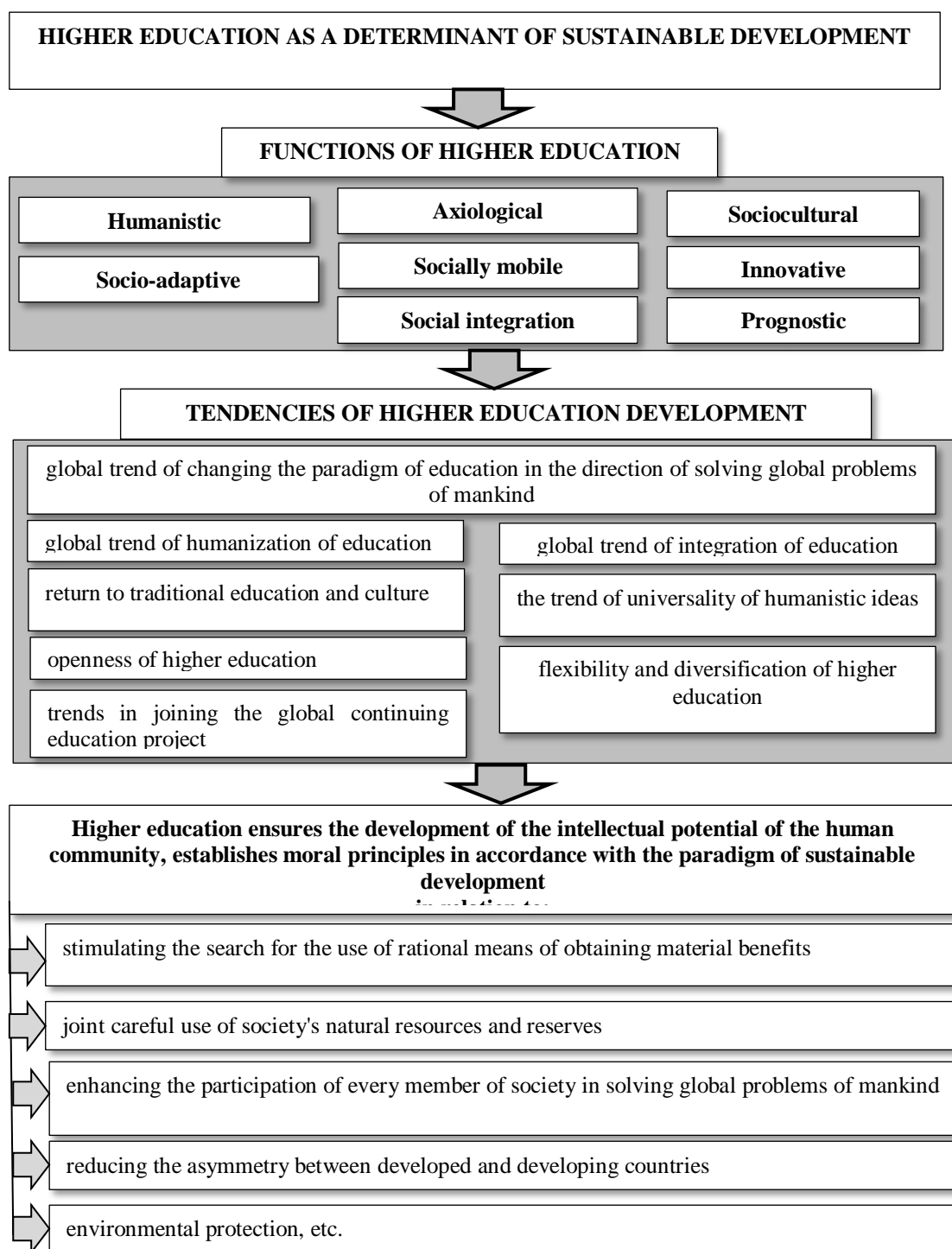
All this corresponds to the direction of sustainable development. Higher education ensures the development of the intellectual potential of the human community, the consolidation of certain moral principles in relation to (Fig. 2):

- joint careful use of natural resources and reserves of society;
- stimulating the search for the use of rational means of obtaining material goods;
- intensifying the participation of each member of society in solving global problems of mankind, including poverty, illiteracy, hunger, etc.;
- reducing the asymmetry between developed and developing countries;
- environmental protection, etc.

Higher education is not a separate sphere of human life, but closely intersects with everyday life. The problems considered in the process of education are in unison with the problems of mankind. Among the tasks set before humanity is to ensure the well-being of people, their security and the sustainable development of the human community in general without harming future generations. Higher education is a means of solving global problems, which is facilitated by the following trends in higher education:

- global trend of changing the paradigm of education in the direction of solving global problems of mankind through the use of new tools and technologies that contribute to the rationalization and environmental use of resources;

Figure 2. Higher education as a determinant of sustainable development, taking into account trends in its development



Source: built by the authors

- global trend of humanization of education, which provides a two-dimensional goal, which includes general professional development and professional self-education of individual and personal qualities of the individual;
- global trend of integration of education, which involves the integration of knowledge and professionals in compliance with the principles of sustainable development of mankind;
- return to traditional education and culture, in which the methodological principles of unity of national and world culture and education are closely intertwined;
- the trend of universality of humanistic ideas, due to the application to all social systems and individuals, despite the various national, economic, religious, ideological and other differences;
- openness of higher education, which expands the boundaries of the interaction of the value system through the dissemination of information and knowledge through the creation of a global education system, including distance, which helps to communicate and transfer knowledge with foreign partners;
- trends in joining the global project of continuing education, which contributes not only to the acquisition of knowledge, but also taking into account the rapid renewal of knowledge and information to be able to update knowledge in the continuous process of self-education throughout active life;
- flexibility and diversification of higher education, which is facilitated by the ability of educational programs, the flexibility of universities to respond quickly to the needs of qualified personnel, changing the criteria for access to higher education.

## Conclusion

Higher education is a determinant of sustainable development due to the possibility of new thinking, which ensures the achievement of sustainable development and lays the foundation for science development and innovation to ensure environmental production, careful use of resources and improve the quality of life.

The scientific novelty of this study is the rationale for using a systematic approach to the importance of higher education as a determinant of sustainable development, based on changes in trends and priorities of the world economy and achieving sustainable development goals, leading to changes in higher education. careful use of society's natural resources and reserves; stimulating the search for the use of rational means of obtaining

material goods; intensifying the participation of each member of society in solving global problems of mankind, including poverty, illiteracy, hunger; reducing asymmetry between developed and developing countries; environmental protection, etc.

Further research is required to develop curricula for their integration in the direction of achieving sustainable development goals.

## References

Acosta Castellanos, P.M., & Queiruga-Dios, A. (2022). From environmental education to education for sustainable development in higher education: a systematic review. *International Journal of Sustainability in Higher Education*, 23(3), 622-644. DOI: 10.1108/IJSHE-04-2021-0167.

Cosmulese C.G., Grosu V., Hlaciuc E., Zhavoronok A. The Influences of the Digital Revolution on the Educational System of the EU Countries. *Marketing and Management of Innovations*. 2019. Vol. 3. P. 242-254. DOI:10.21272/mmi.2019.3-18

Djakona A., Kholiavko N., Dubyna M., Zhavoronok A. & Fedyshyn M. Educational dominant of the information economy development: a case of Latvia for Ukraine. *Economic Annals-XXI*. 2021. Vol. 192(7-8(2)). P. 108-124. DOI:10.21003/ea.V192-09

Djakona A., Kholiavko N., Dubyna M., Zhavoronok A., Lavrov R. The higher education adaptability to the digital economy. *Bulletin of the National Academy of Sciences of the Republic of Kazakhstan*. 2020. Vol. 4(386). P. 294-306. DOI:10.32014/2020.2518-1467.130

Elmassah, S., Biltagy, M., & Gamal, D. (2022). Framing the role of higher education in sustainable development: a case study analysis. *International Journal of Sustainability in Higher Education*, 23(2), 320-355. DOI: 10.1108/IJSHE-05-2020-0164.

Griebeler, J.S., Brandli, L.L., Salvia, A.L., Leal Filho, W., & Reginatto, G. (2022). Sustainable development goals: a framework for deploying indicators for higher education institutions. *International Journal of Sustainability in Higher Education*, 23(4), 887-914. DOI: 10.1108/IJSHE-03-2021-0088.

Grosu V., Kholiavko N., Safonov Yu., Zhavoronok A., Cosmulese C.G. Quintuple Helix Model: Investment Aspects of Higher Education Impact on Sustainability. *Management Theory and Studies for Rural Business and Infrastructure Development*. 2021. Vol. 43(1). P. 111-128. DOI:10.15544/mts.2021.10

Janssens, L., Kuppens, T., Mulà, I., Staniskiene, E., & Zimmermann A.B. (2022). Do European quality assurance frameworks support integration of transformative learning for sustainable development in higher education? *International Journal of Sustainability in Higher Education*, 23(8), 148-173. DOI: 10.1108/IJSHE-07-2021-0273.

Kholiavko, N., Popelo, O., & Tulchynska, S. (2021). Priority Directions of Increasing the Adaptivity of Universities to the Conditions of the Digital Economy. *Revista Tempos E Espaços Em Educação*, 14(33), e16383. DOI:10.20952/revtee.v14i33.16383.

Kholiavko, N., Popelo, O., Melnychenko, A., Derhaliuk, M., & Grynevych, L. (2022). The Role of Higher Education in the Digital Economy Development. *Revista Tempos E Espaços Em Educação*, 15(34), e16773. DOI:10.20952/revtee.v15i34.16773.

Lazarov, A.S., & Semenescu, A. (2022). Education for Sustainable Development (ESD) in Romanian Higher Education Institutions (HEIs) within the SDGs Framework. *International Journal of Environmental Research and Public Health*, 19(4), 1998. DOI: 10.3390/ijerph19041998.

Liu, Y., Bao, T., Zhao, D., Sang, H., & Fu, B. (2022). Evaluation of Student-Perceived Service Quality in Higher Education for Sustainable Development: A Fuzzy TODIM-ERA Method. *Sustainability*, 14(8), 4761. DOI: 10.3390/su14084761.

Martínez Casanovas, M., Ruíz-Munzón, N., & Buil-Fabregá, M. (2022). Higher education: the best practices for fostering competences for sustainable development through the use of active learning methodologies. *International Journal of Sustainability in Higher Education*, 23(3), 703-727. DOI: 10.1108/IJSHE-03-2021-0082.

Sánchez-Carracedo, F., Romero-Portillo, D., Sureda Carbonell, B., & Moreno-Pino, F.M. (2022). Education for sustainable development in Spanish higher education: an assessment of sustainability competencies in engineering and education degrees. *International Journal of Sustainability in Higher Education*, 23(4), 940-959. DOI: 10.1108/IJSHE-02-2021-0060.

Severino-González, P., Gallardo-Vázquez, D., Ortuya-Poblete, C., Romero-Argueta, J., Tunjo-Buitrago, E., Arenas-Torres, F., & Sarmiento-Peralta, G. (2022). Social Responsibility: Sustainable Development Goals and COVID-19—Perception Scale of Students from Higher Education Institutions. *International Journal of Environmental Research and Public Health*, 19(9), 5323. DOI: 10.3390/ijerph19095323.

Veidemane, A. (2022). Education for Sustainable Development in Higher Education Rankings: Challenges and Opportunities for Developing Internationally Comparable Indicators. *Sustainability*, 14(9), 5102. DOI: 10.3390/su14095102.

Wright, C., Ritter, L.J., & Gonzales, C.W. (2022). Cultivating a Collaborative Culture for Ensuring Sustainable Development Goals in Higher Education: An Integrative Case Study. *Sustainability*, 14(3), 1273. DOI: 10.3390/su14031273.

Zhavoronok A., Kholiavko N., Shaposhnykov K., Krylov D., Morozova L., Babiak N. Integrated Model of the Higher Education Financing Under the Quadruple Helix Concept. *International Journal of Computer Science and Network Security*. 2021. Vol. 21(7). P. 125-132. DOI:10.22937/IJCSNS.2021.21.7.16