HARMONISATION OF THE EUROPEAN EDUCATION AREA: CHALLENGES AND PROSPECTS FOR INTEGRATION OF HIGHER EDUCATION IN EUROPE

HARMONIZAÇÃO DO ESPAÇO EUROPEU DA EDUCAÇÃO: DESAFIOS E PERSPECTIVAS PARA A INTEGRAÇÃO DO ENSINO SUPERIOR NA EUROPA

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Abstract

Objective. The purpose of this article is to study the impact of science and education on the efficiency of social production and quality of life in the context of global integration processes. Methods. The methods used in the study are literature review, statistical data analysis, and empirical research. To obtain the results, we analysed data on the quality of education and research in Ukraine and other European countries. Results. The study found that the quality of education and research is crucial for the competitiveness of society in the context of globalisation and rapid changes in the economy and technology. Scientific achievements and educational standards are key indicators of a state's readiness to meet the challenges of the present and its ability to attract investment, attract talented young people, and ensure sustainable economic dynamics. Conclusions. The obtained results emphasise the critical role of education and research in the process of achieving sustainable development of society. The need for targeted improvement of education and support for research is recognised as a key factor in achieving a high quality of life, competitiveness, and prosperity of the country. Prospects. Future research could expand the understanding of the interaction between education, science, and the economy in a globally competitive environment. The impact of digital transformation on educational and scientific processes should also be investigated, and practical models of cooperation between universities and the private sector should be developed to stimulate innovation and societal development.

**Keywords:** quality of education, globalisation, educational environment, civil society, competitiveness.

Resumo

Objetivo. El propósito de este artículo es estudiar el impacto de la ciencia y la educación en la eficiencia de la producción social y la calidad de vida en el contexto de los procesos de integración global. Métodos. Los métodos utilizados en el estudio son la revisión bibliográfica, el análisis estadístico de datos y la investigación empírica. Para obtener los resultados, se analizaron datos sobre la calidad de la educación y la investigación en Ucrania y otros países europeos. Resultados. Según el estudio, la calidad de la educación y la investigación es crucial para la competitividad de la sociedad en el contexto de la globalización y los rápidos cambios en la economía y la tecnología. Los logros científicos y el nivel educativo son indicadores clave de la preparación de un Estado para afrontar los retos del presente y de su capacidad para atraer inversiones, captar jóvenes con talento y garantizar una dinámica económica sostenible. Conclusiones. Los resultados obtenidos ponen de relieve el papel fundamental de la educación y la investigación en el proceso de consecución de un desarrollo sostenible de la sociedad. La necesidad de una mejora específica de la educación y el apoyo a la investigación se reconoce como un factor clave para lograr una alta calidad de vida, la competitividad y la prosperidad del país. Perspectivas. La investigación futura podría ampliar la comprensión de la interacción entre la educación, la ciencia y la economía en un entorno competitivo global. También habría que investigar el impacto de la transformación digital en los procesos educativos y científicos, y desarrollar modelos prácticos de cooperación entre las universidades y el sector privado para estimular la innovación y el desarrollo de la sociedad.

**Palavras-chave:** calidad de la educación, globalización, entorno educativo, sociedad civil, competitividad.

Introduction

Global integration trends observed in the global educational space are one of the most pressing topics of our time. They not only determine the course of events in the international arena but also have a significant impact on all areas of social life, acting as catalysts for change and development.

These processes have covered all spheres of social production, creating new opportunities for international cooperation and trade. They also affect the development of culture and spiritual life, helping to spread ideas and values through intercultural exchange. In the field of education and science, integration paves the way for the creation of a single space, facilitating the exchange of knowledge and research.

Particular attention should be paid to the political, legal, and organisational aspects of these processes in Europe. The Lisbon Strategy, aimed at strengthening the European community, has become a precious document that defines the ways to achieve European integration. The formation of a single European area of education and science through the implementation of the Bologna Process is an example of concrete steps towards creating a common educational space in Europe.

The relevance of this topic is obvious, as integration processes continue to change the global landscape, affecting politics, economics, culture, and social structures. Understanding and studying these processes helps to analyse the current challenges and opportunities they bring and contributes to a more effective management of their consequences for national and international communities. This paper examines the challenges and prospects associated with the harmonisation of the European education area. The paper not only identifies these challenges but also analyses how they may affect the integration of higher education in the region.

Today, the process of human development is characterised by the transition to a knowledge society, introducing qualitatively new requirements to the education system. Education, having become a productive force, is becoming an increasingly decisive factor in the success of nations and regions in a competitive world where the struggle for survival requires not only physical but also intellectual dexterity.

The growing role of education in the modern world does not leave national and international political leaders indifferent. It is not for nothing that at the beginning of the 21st century, it became a top priority in the policies of many countries and international organisations. This reflects the recognition that the quality of education has a direct impact on the social, economic, and cultural development of society (Lee, Haupt, 2020).

One of the important steps in this direction was the introduction of a new European education policy, officially defined by the Education and Training 2010 programme, which was approved at the European Commission meeting in Lisbon in May 2000. This programme aimed not only to improve the quality of education in Europe but also to develop educational systems that would meet the challenges of the modern world and prepare young people for changes in the global community (Marginson, 2021).

It is known that the concept of quality in higher education is the result of a synthesis of different approaches that were developed within the Bologna Process and united to achieve a common goal. Among them are the following concepts:

1. The concept of three-part lifelong learning, which includes formal, non-formal, and informal education.
2. The concept of three-cycle higher education, which includes bachelor's, master's, and doctoral programmes.
3. The concept of a competency-based approach that focuses on the development of students' practical skills and abilities.
4. The concept of academic credits that allows students to choose an individual learning path.
5. The concept of integrating higher education and research at all levels.
6. The concept of compatibility of European and national qualification systems and their descriptions (descriptors).
7. The concept of quality assurance in higher education through the establishment of standards, procedures, and guidelines.
8. The concept of the diversity of European higher education systems and their mutual understanding and recognition (Marginson and Yang, 2022).

All of these are combined within the Bologna Process to create a common approach to the development of higher education in Europe and to ensure its quality. They are important elements of a strategy aimed at improving the quality of education and preparing students for the challenges of the modern world (Vera-Baceta, Thelwall, Kayvan Kousha, 2019).

The main goal of modernising higher education in Ukraine is to create a modern model of the educational process that combines the best national and international pedagogical traditions. This model aims not only to improve the quality of education but also to educate individuals capable of active independent work and ready to compete in the global market. Combining the humanistic traditions of Ukrainian pedagogy with international experience is an important step towards creating a dynamic, mobile, and competitive educational system. This modernisation will allow students to receive a quality education that takes into account the current requirements of the labour market and the development of society (McGreal, Olcott Jr, 2022).

To successfully implement the proposed reforms in the education sector, we believe that alternative mechanisms should be used, among which the following aspects are important:

1. Creating conditions for individual investment in the education of each student. Every student should have the opportunity to receive financial support that meets their needs and academic achievements (Kwiek, 2020).
2. Ensuring the transition to autonomy of educational institutions, which have the right to form their own budgets and make management decisions. This will contribute to greater efficiency and flexibility of educational institutions (Graf, Kalthaus, 2018).
3. Implementation of authoring programmes and financial incentives for teachers who achieve the best results in teaching their students. The event aims to encourage teachers to continuously improve their work and create a motivational atmosphere for students (Friedman, 2018).

In the context of society's adaptation to modern globalisation challenges, there is a need to find answers to questions about the future prospects of the global economy. This is possible through the introduction of scientific and technical achievements, modern educational technologies, and methodological principles of integration into the educational process of higher education institutions.

Literature Review

The analysis of the literature helps to reveal the impact of the integration of the educational space on the development of the education system in the region. All of these sources complement each other, providing a comprehensive view of the importance of higher education. They are also each address important aspects from different perspectives and provide valuable context for understanding current trends in higher education.

Tsekhmister (2022) discusses educational transformations in Ukraine in his article. The author emphasises the importance of education as part of the process of recovery and accession to the European Union in the post-war period. This paper offers an important context for understanding the educational transformations in the Ukrainian educational space, which is linked to Ukraine's aspirations to join the EU. The findings of this study indicate that integration into the educational space should be the driving force behind the recovery of Ukraine's post-war economy.

The paper by Veidemane (2022) focuses on the importance of education for sustainable development and its role in higher education rankings. The author discusses the challenges and opportunities in developing internationally recognised assessment criteria in higher education. The paper helps to understand the importance of education for sustainable development in the global context. According to the author, only consistent reforms aimed at unifying the European educational area will contribute to the comprehensive development of the region's economic sector.

The authors of the article Franco et al. (2019) consider the role of higher education in achieving the global sustainable development goals. The authors emphasise the importance of integrating the Sustainable Development Goals into higher education policy, curriculum, and practice. The main goal of education, according to the authors of this study, is to implement the principles of continuity of the educational process. Only the continuous improvement of professional and civic competencies will contribute to the comprehensive development of scientific and technical potential.

Piros & Koops (2020) focuses on the European Union's foreign policy towards higher education development within the framework of the Eastern Partnership programme. The authors consider the possibilities of building a favourable approach to education diplomacy and analyse the challenges and opportunities for education development in the region. The article adds to the overall picture of how higher education can be an instrument of foreign policy. The main conclusions suggest the need for non-EU countries to join the single European educational environment.

Hill, Hell, & Van Cauter (2021) highlight the process of higher education unification in Southeast Asian countries. The authors explore the challenges and approaches to international cooperation in higher education in these countries. The authors provide insights into how the development of higher education in the region can impact sustainable development and international relations. This study has resulted in the idea of the need for close cooperation between universities in Southeast Asia. The authors also emphasise the importance of unification of educational standards and mutual recognition of educational qualifications.

The article by Telling & Serapioni (2019) explores the changes in competence development policy in the European Union over the past 25 years. The authors note the importance of revisiting the competence strategy and its impact on the policy of learning and social skills development in Europe. This article helps to understand the evolution of approaches to competences in higher education and their importance for the modern labour market. Today, the authors believe that the competence approach is the basis for the modernisation of the common European education strategy as a whole. The results and conclusions of the study are aimed at forming a culture of continuous acquisition of new competencies.

Al-Agtash & Khadra (2019) analyses the Arab context of the integration of the regional higher education system into the international educational space. The authors explore the challenges and opportunities that arise in higher education in the Arab region, which are related to the global trend towards integration and unification of requirements for the provision of educational services. In the context of our study, it is important to pay attention to the works not devoted to the European region. In general, the findings of the researchers only emphasise the relevance of the chosen topic.

The study by Järvis, Tambovceva & Virovere (2021) examines the impact of scientific innovation and advanced technologies on the development of the educational environment. The paper analyses how modern technologies can change the way higher education is taught and researched. The results of the study show the importance of introducing advanced technologies into the educational process. The authors emphasise that such reforms are possible only in close international cooperation.

Pérez-delHoyo et al. (2020) examine the introduction of innovative technologies in higher education using geographic information systems (GIS). The authors share their experience of using GIS in the educational process and analyse its impact on the quality of learning and academic performance of students. They highlight the importance of integrating technology into education and the possibilities of using GIS as a teaching tool.

The paper by Bashkin et al. (2021) addresses the issue of training public health professionals. The authors highlight the need to change the strategies and skills of future professionals in a changing world. They propose a conceptual framework for a project to exchange experiences between Europe and Israel. This article emphasises the importance of adapting education and training to the challenges of the modern world and transferring knowledge between countries.

Based on the analysis of the above sources, it is possible to form a general picture of understanding the development of the educational environment in Europe and beyond. A comparison of the results of the study of scientific literature is presented in Table 1.

Table 1 – Comparative analysis of different approaches to integration educational processes in Europe and beyond

|  |  |  |
| --- | --- | --- |
| **Approach** | **European region** | **Outside Europe** |
| Accent | Integration into the European educational space and implementation of the Lisbon strategy | Integration into the international educational space and cooperation in higher education |
| Main tasks | Ensuring uniformity of standards, unification of qualifications, and improvement of the quality of higher education | Developing education in the context of global trends, promoting international mobility and cooperation between universities |
| Impact on development | Improving the quality of education and training for the EU labour market | Improving the competitiveness of education and increasing the country's international attractiveness |
| Key challenges | Ensuring the comparability of educational systems of different countries, recognition of qualifications | Bringing higher education in line with international standards and norms, regulating the recognition of qualifications |
| Outlook. | Further development of the Bologna Process, improvement of cooperation in higher education | Expanding international educational initiatives and strengthening partnerships with participating countries |
| Conclusions. | Europe is actively working to unify higher education and improve its quality to ensure uniformity of standards and training of highly qualified specialists | Countries outside of Europe develop international cooperation and promote international mobility of students and teachers to increase the attractiveness of their education and research achievements |

Source: Created by the authors at based on Franco et al. (2019).

A general trend can be observed, which is the development of international cooperation and the promotion of international mobility of students and teachers in all regions. However, the specifics of approaches and emphasis differ depending on the region and its educational needs and goals.

One of the key aspects that emerges from the literature review is the identification of under-researched issues. It is important to bear in mind that many studies indicate that some aspects of the topic still require further research. It is important to consider how the introduction of new technologies and teaching methods affects the social aspect of higher education. How it affects students, teachers, and society as a whole. Due to the increasing globalisation of education, it is important to study how HEIs adapt to international standards and requirements.

Research Problem

The key problem of the study is to determine the degree of harmonisation of the educational systems of different European countries and their compliance with common European standards. It requires a detailed analysis and evaluation of the educational programmes, qualifications, and structure of higher education in each country. Also, attention should be paid to the challenges faced by higher education institutions (HEIs) in the process of adapting to European standards. Of particular interest are changes in curricula, the process of academic achievement assessment, and the governance structure of higher education institutions.

It is necessary to pay attention to the prospects and opportunities arising from the harmonisation of the European educational area for the integration of higher education in the region. It is necessary to focus on international cooperation in education, the exchange of students and teachers, as well as the possibility of obtaining a higher education degree that will be recognised in different European countries.

Research Focus

It is important to thoroughly investigate the extent to which different European countries are implementing European educational standards and whether they meet common norms and requirements. This analysis will help to determine how realistic it is to achieve harmonisation of existing educational systems. The study also aims to identify specific challenges that universities and colleges face in the process of adapting to European standards. This implies the need for changes in curricula, improving the quality of education, and changes in assessment systems.

Research Aim and Research Questions

The aim of the study is to systematically examine and analyse the process of harmonisation of the European Education Area and its impact on the integration of higher education in Europe. In the context of this topic, the study has the following objectives:

1. Analyse the process of harmonisation of educational systems in different European countries. Identification of common and unique features of this process, as well as identification of trends and challenges that arise during its implementation.
2. Research to understand how the harmonisation of the European education area affects higher education and educational institutions in the region.
3. Identification of opportunities and prospects arising from the harmonisation of the European education area for the integration of higher education in the region.

Research hypotheses

*Hypothesis 1*: Harmonisation of the European Education Area contributes to the international competitiveness of higher education in Europe.

*Hypothesis 2*. The harmonisation of the European educational area creates challenges for preserving and maintaining the cultural diversity of higher education in Europe.

Research Methodology

The methodology of this study is based on a set of dialectical principles aimed at revealing the essence of the analysed processes, identifying their forms of manifestation, and determining trends for further development. The study uses systemic, process, and structural-functional approaches, as well as methods of comparative analysis, deduction, and induction to gain a deeper understanding of the essence of the phenomena under study and create an objective picture of their development.

Dialectical principles help to identify internal connections and contradictions in the processes under study, and the analysis of their forms of manifestation contributes to understanding the peculiarities of functioning and interaction of their components. The use of a systematic approach allows us to consider the study as an interconnected system, which contributes to a deeper understanding of the interaction of these components and their impact on overall development. The method of comparative analysis helps to identify similarities and differences in the various processes under study, deduction helps to identify general patterns from specific cases, and induction allows to draw conclusions based on observations and data. Generalisation of the research results allows us to formulate new ideas and concepts for the development of the phenomena under study. The combination of different methodological approaches together with a dialectical approach creates a comprehensive framework for a deep understanding and analysis of the phenomena under study, which in turn contributes to reasonable conclusions and identification of opportunities for further improvement.

Results

In the early nineteenth century, a prominent German scientist and public figure, Wilhelm von Humbolt, put forward the idea of moving from the traditional concept of the university, which was seen as an exclusively educational institution and a repository of knowledge, to the concept of “unity of teaching and research.” He proposed to combine these two functions within university structures. It is important to note that in doing so, Humbolt recognised the delicate relationship and balance between basic and applied science, as the division between them is blurred (Khalid, Ali, Nordin, Shah, 2019).

In today's Europe, the term “frontier research” is used to describe scientific activities that take place in the university environment and contribute to the development and implementation of innovations. This approach is recognised as one of the most effective ways to overcome the society-science paradigm. In this context, a key aspect is the understanding that society must trust universities as the main catalyst for development. It is universities that train students with great cultural, educational, and scientific potential and remain leaders in science and innovation (Martyniuk, Ivanova, Tsymbal, Yakushko, Kochetkova, 2023).

When analysing the structure, management system, and activities of universities in highly developed countries, it turns out that the highest international rankings are given to those universities that successfully combine three key systems in their structure: educational, research, and innovation. The innovation system plays a significant role in bringing the university closer to the industrial sector and is the basis for the development of highly intellectual business.

Comparing this state of affairs to the situation in Ukraine and Central and Eastern Europe, it is worth noting that most universities have a strong education system, but their research capabilities and research funding remain limited. As for innovation activities in Ukraine, they are being launched only in a limited number of educational institutions and do not even have proper legislative support.

The main idea is that in order to strengthen Ukraine's economic development and competitiveness, it is necessary to address these problems without delay. The goal of reforming university activities in Ukraine can be seen schematically in Figure 1. It is important to note that the main focus is on the so-called educational and research universities, which equally train bachelors, masters, and PhDs, and have a developed research base and system of innovation compared to traditional universities.

Figure 1 – Scheme of the main activities of an educational and research university

Source: Own development of by the authors.

The European Universities Association (EUA) plays an important role in shaping and defining integration trends in higher education. The European Universities Association has members from 46 European countries and its main goal is to guide and support the development of higher education in Europe. The main focus of the EAU is to integrate the results of the latest scientific research into the educational process, develop current educational trends, and ensure the implementation of the principles of the Lisbon Strategy and the Bologna Declaration (Telling & Serapioni, 2019).

One of the main functions of the EAU is to provide expert assessment of the level of higher education and the state of research at universities. In addition, it actively supports European universities in their activities. The European Association of Universities is committed to the principles of the Magna Charta Universitatum, which was signed by 388 university rectors from around the world in Bologna in 1988.

Qualifications systems are an important tool for achieving comparability and transparency within the European Higher Education Area (EHEA) and improving student mobility both within and between different higher education systems (Table 2). These qualification systems also assist universities in creating modular programmes and curricula.

Table 2 – Qualification systems within the European Higher Education Area (EHEA)

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| --- | --- | --- | --- |
| **Country** | **Name of the qualification system** | **Qualification levels** | **Notes** |
| Austria | Nationaler Qualifikationsrahmen (NQR) | 8 | Adopted in accordance with the European Qualifications Framework. |
| Germany | Deutscher Qualifikationsrahmen (DQR) | 8 | It is focused on vocational education and higher education. |
| France | Cadre national des certifications (CNCP) | 8 | Includes higher, vocational, and general education. |
| Spain | Marco Español de Cualificaciones para la Educación Superior (MECES) | 3 | Higher education is divided into three levels. |
| United Kingdom | Framework for Higher Education Qualifications in England, Wales, and Northern Ireland (FHEQ) | 8 | Includes higher education in England, Wales, and Northern Ireland. |
| Italy | Quadro dei Titoli Italiani (QTI) | 3 | Higher education is divided into bachelor's, master's, and doctoral degrees. |
| Poland | Krajowa Kwalifikacja (KK) | 7 | Fully integrated into the EHEA system. |
| Ukraine | National Qualifications Framework (NQF) | 8 | Developed based on the European Qualifications Framework. |

Source: compiled by the authors at based on Telling & Serapioni (2019).

In the early eighties of the last century, the potential for imitation was exhausted, and Europe had to immediately shift to a leadership strategy that involved significant investment in research and higher education. In this strategy, general higher education, which provides basic and methodological skills, is central and aims to improve the quality of education through innovative technologies. That is why universities and other higher education institutions surrounded by science parks have become engines of growth and have contributed to job growth in the regions. Modern growth theory restores the ideas of Joseph Schumpeter, a representative of the Austrian school of economics, according to which growth is achieved through high-quality technologies resulting from investments in human capital (Tkachova et al., 2021).

The renewed Lisbon Strategy, aimed at implementing reforms to achieve growth and create more jobs in Europe, has taken on board valuable lessons from modern growth theory. At its February 2006 meeting, the Council of Europe Commission (in its annual progress report “Europe on the move: working together for growth and employment”) emphasised the need to increase investment in knowledge and innovation.

In today's knowledge-based society, universities face increasing competitive pressure. Knowledge has become a critical resource and its production and transfer can no longer be left to universities alone. Naturally, universities are responding to the growing demand for knowledge in the context of the knowledge-innovation-education nexus. New educational institutions have emerged that are dedicated exclusively to education, research, and innovation. These institutions with specialised mission are becoming competitors to traditional universities, especially in terms of cost-effectiveness and efficiency. Initially, European universities were more dismissive of this challenge, as they saw cost-effectiveness and efficiency as being in opposition to traditional academic objectives and values. More recently, however, universities have realised the importance of maintaining the interest of society in this area (including taxpayers) and have begun to provide professional solutions that meet the needs of modern knowledge-based society (Sereda and Karskanova, 2021).

In the current context of scientific cooperation, Ukraine mainly acts as a supplier of intellectual resources for developed countries. Therefore, recognition of its competitiveness in the global scientific and educational market, as well as ensuring equal cooperation and effective integration into international processes will depend on the effectiveness of the state policy on the development of education and science. This policy should help not only prevent the outflow of scientific and academic staff abroad but also stimulate their return to Ukraine, as well as attract foreign specialists to research work in Ukrainian scientific institutions (Adams, Gurney, 2018).

The integration of the Ukrainian higher education and science system into a similar European system is not only about the organisational and institutional aspects of the national education system, although this aspect is also important. Greater attention should be paid to economic and socio-economic aspects that affect all spheres of society, including science and education. It is important to ensure that integration processes in higher education and science are synchronised with active state socio-economic policy in general, including education and science.

Discussion

As noted in the study by Tsekhmister, Kotyk, Matviienko, Rudenko, Ilchuk (2021), global integration processes have affected all aspects of social life, including social production, culture, spiritual life, education, and science, and have become key determinants of the way of life of both the global community and individual state-organised societies, as described in the study by Stamelos, Adamopoulou (2023). The article by Kornytska, Alforof, Honcharuk (2023) notes that this process is a necessary component and one of the main directions of Ukraine's internal and external socio-economic, and political strategy in the context of its path to integration into a single European political, economic, information, legal and cultural community. The authors' opinion coincides with the conclusions of this study and is to raise the quality of life of Ukrainian society to the level of the best European and world standards, given the fact that science and education, as well as the state of health of the nation, have become the determining factors of the efficiency of social production and living standards.

In our opinion, in order to achieve this goal, it is necessary to improve the quality of educational and scientific activities, increase their efficiency, and rationally use public resources. In addition, it is important to identify and maximise the use of the intellectual resources of society. A similar statement can be found in Bukliv, Kuchak, Vasylyuk-Zaitseva (2023). The authors emphasise that such a path requires overcoming old stereotypes of thinking of participants in the educational process and the development and implementation of new methodological, organisational, and technical approaches in the field of education and science at all levels and in all their aspects. We agree with this position and emphasise that the integration of the educational environment within united Europe will contribute to the creation of a unified methodological framework for improving professional competencies throughout life.

The global integration processes outlined by Haidabrus (2022) are now an essential component of the development of all spheres of social life, including education and science. These processes have a direct impact on shaping the way of life and quality of life not only in individual countries but also in the whole world, and the European continent is one of the central participants in this global movement. Our study repeatedly emphasises the special role of globalisation of the world economy in the process of creating a unified educational environment. This should also contribute to the unification of the content of educational qualification levels of higher education students.

The Lisbon Strategy defined organisational, legal, and methodological measures to create a single European education and research area within the Bologna Process. This was an important step in improving the educational system in Europe and ensuring its compatibility and comparability between different countries. Ukraine, which joined the Bologna Process, has recognised the importance of integration into the European education area as one of the priorities of its development strategy (Hordiichuk, Nikolenko, Shavel, Zakharina, Khomyk, 2022).

The main goal of these global integration trends for Ukraine is to ensure the improvement of the quality of life of Ukrainian society. Science and education are becoming key factors in the efficiency of social production, as well as in the way and quality of life of the nation. This means that it is necessary to continuously improve the quality of educational and research work, rationally use public resources, and attract the intellectual resources of society (Marginson, 2022).

To achieve this goal, it is necessary to overcome old stereotypes of thinking of participants in the educational process and introduce new methodological, organisational, and technical approaches to educational and research activities. Global integration trends in European education provide Ukraine with the opportunity to adapt its education system to the best European standards and promote the introduction of innovations and modern approaches to education and research.

The study has both theoretical and practical implications that play an important role in the development of education and science. The theoretical implications are to expand the general understanding of the effectiveness of higher education and research in the context of global integration processes. It reveals key aspects of the interaction of education and science with the economy and society in the context of European integration. It indicates that the quality of education and research are key determinants for achieving European and global standards of living. Practical implications relate to the implementation of specific measures and recommendations in the field of education and research. This may include improving teaching and learning methods, optimising the use of resources for research, promoting cooperation between higher education institutions and businesses, and enhancing Ukraine's integration into the European education and research space.

The study has limitations related to the analysis of integration educational processes in Europe, and it may not take into account the unique aspects of higher education integration in other regions of the world. The limitation in the timeframe of the study may exclude some important aspects of the development of educational systems and harmonisation. The study was based on a literature review, which may exclude important practical data or perspectives of educational stakeholders.

Areas for further research

Further research could focus on a comparative analysis of the integration of educational processes in different regions of the world to gain a more global understanding of this phenomenon. Also, attention should be paid to the study of practical cases of harmonisation of the educational space, which can provide more information on the impact of these processes on higher education and society.

Conclusion

The relevance of the study lies in the context of modern global integration processes and strategic tasks of Ukraine on its way to joining the European educational and scientific space. Understanding the impact of science and education on the quality of social production and life is becoming an important task in the context of sustainable development. The study found that the quality of education and research are critical factors in the efficiency of social production and life. Ukraine's integration into the European education area requires significant efforts to improve these areas, in particular, improving teaching methods, optimising the use of research resources, and strengthening cooperation between educational institutions and industry. The findings can be used in higher education to modernise curricula and teaching methods. They can also serve as a basis for developing strategies for the development of education and science at the level of state policy. In addition, they can be useful for businesses and organisations that cooperate with higher education institutions to ensure higher quality research and training of highly qualified specialists. Future research could expand the understanding of the interaction between education, science, and the economy in a globally competitive environment. An important area is to study the impact of digital transformation on educational and scientific processes, as well as to explore practical models of cooperation between universities and the private sector to stimulate innovation and societal development.

References

ADAMS, J.; GURNEY, K. 2018. “Bilateral and multilateral co-authorship and citation impact: Patterns in UK and US international collaboration” In: Frontiers in Research Metrics and Analytic. Vol. [3](https://doi.org/https%3A/doi.org/10.3389/frma.2018.00012), No [12](https://doi.org/https%3A/doi.org/10.3389/frma.2018.00012). [https://doi.org/https://doi.org/10.3389/frma.2018.00012](https://doi.org/https%3A/doi.org/10.3389/frma.2018.00012)

AL-AGTASH, S.; KHADRA, L. 2019. “Internationalization Context of Arabia Higher Education” In:  International Journal of Higher Education. Vol. 8, No 2, pp. 68-81. <https://eric.ed.gov/?id=EJ1212841>

BASHKIN, O.; DOPELT, K.; MOR, Z.; LEIGHTON, L.; OTOK, R.; DUPLAGA, M.; Davidovitch, N. 2021. “The future public health workforce in a changing world: a conceptual framework for a European–Israeli knowledge transfer project” In: International Journal of Environmental Research and Public Health. Vol. 18, No 17, pp. 9265. <https://doi.org/10.3390/ijerph18179265>

BUKLIV, R.; KUCHAK, A.; VASYLYUK-ZAITSEVA, S. 2023. “Professional training of future academic staff and digitalization of education: analysis of mutual influences” In: Futurity Education. Vol. 3, No 1, pp. 69–78. [https://doi.org/10.57125/FED.2023.25.03.06](https://www.google.com/url?q=https://doi.org/10.57125/FED.2023.25.03.06&sa=D&source=editors&ust=1694679081625668&usg=AOvVaw0DteEhFdaxNFj_WQQrKx2B)

FRANCO, I.; SAITO, O.; VAUGHTER, P.; WHEREAT, J.; KANIE, N.; TAKEMOTO, K. 2019. “Higher education for sustainable development: Actioning the global goals in policy, curriculum and practice” In: Sustain. Vol. 14, pp. 1621–1642. <https://doi.org/10.1007/s11625-018-0628-4>

FRIEDMAN, J. 2018. “Everyday nationalism and elite research universities in the USA and England” In: Higher Education. Vol. [76](https://doi.org/https%3A/doi.org/10.1007/s10734-017-0206-1), No [2](file:///C%3A%5CUsers%5CEditor%5CDownloads%5C2), pp. 247–261. [https://doi.org/https://doi.org/10.1007/s10734-017-0206-1](https://doi.org/https%3A/doi.org/10.1007/s10734-017-0206-1)

GRAF, H.; KALTHAUS, M. 2018. “International research networks: Determinants of country embeddedness” In: Research Policy. Vol. [47](https://doi.org/https%3A/doi.org/10.1016/j.respol.2018.04.001), No [7](file:///C%3A%5CUsers%5CEditor%5CDownloads%5C7), pp. 1198–1214. [https://doi.org/https://doi.org/10.1016/j.respol.2018.04.001](https://doi.org/https%3A/doi.org/10.1016/j.respol.2018.04.001)

HAIDABRUS, B. 2022. “Information technology and management in higher education and science” In: Futurity Education. Vol. 2, No 4, pp. 26–35. [https://doi.org/10.57125/FED.2022.25.12.03](https://www.google.com/url?q=https://doi.org/10.57125/FED.2022.25.12.03&sa=D&source=editors&ust=1694679081625721&usg=AOvVaw0NeSaxISsdpWyiJ66Czb5u)

HILL, C.; HELL, S.; VAN CAUTER, K. 2021. “Internationalising higher education in Cambodia, Lao PDR, Myanmar, and Viet Nam: challenges and approaches” In: Studies in Higher Education. Vol. 46, No 7, pp. 1477-1491. <https://doi.org/10.1080/03075079.2019.1680966>

HORDIICHUK, O.; NIKOLENKO, L.; SHAVEL, K.; ZAKHARINA, M.; KHOMYK, T. 2022. “Analysis of models of inclusive education in European countries (experience for Ukraine)” In: Revista Eduweb. Vol. 16, No 4, pp. 32–41. [https://doi.org/10.46502/issn.1856-7576/2022.16.04.3](https://www.google.com/url?q=https://doi.org/10.46502/issn.1856-7576/2022.16.04.3&sa=D&source=editors&ust=1694679081625778&usg=AOvVaw2RxXkiYPqftCu-WiLKnbg9)

JÄRVIS, M.; TAMBOVCEVA, T.; VIROVERE, A. 2021. “Scientific innovations and advanced technologies in higher education” In: Futurity Education. Vol. 1, No 1, pp. 13-22. <https://doi.org/10.57125/FED.2022.10.11.2>

KHALID, J.; ALI, A. J.; NORDIN, N. M.; SHAH, S. F. H. 2019. “Regional cooperation in higher education: Can it lead ASEAN toward harmonization?” In: Southeast Asian Studies. Vol. 8, No 1, pp. 81-98. <https://www.jstage.jst.go.jp/article/seas/8/1/8_81/_article/-char/ja/>

KORNYTSKA, L.; ALFOROF, A.; HONCHARUK, V. 2023. “Some Aspects of Adapting the Educational Process of Ukrainian Higher Education to the Global Challenges of the XXI Century: A Forecast of the Future” In: Futurity Education. Vol. 3, No 2, pp. 122–133. [https://doi.org/10.57125/FED.2023.06.25.08](https://www.google.com/url?q=https://doi.org/10.57125/FED.2023.06.25.08&sa=D&source=editors&ust=1694679081625593&usg=AOvVaw23e46FJCaQyhqhmrGpbYBZ)

KWIEK, M. 2020. “What large-scale publication and citation data tell us about international research collaboration in Europe: Changing national patterns in global contexts” In: Studies in Higher Education. Vol. [46](https://doi.org/https%3A/doi.org/10.1080/03075079.2020.1749254), No [2](file:///C%3A%5CUsers%5CEditor%5CDownloads%5C2), pp. 2629–2649. [https://doi.org/https://doi.org/10.1080/03075079.2020.1749254](https://doi.org/https%3A/doi.org/10.1080/03075079.2020.1749254).

LEE, J.; HAUPT, J. 2020. “Winners and losers in US-China scientific research collaborations” In: Higher Education. Vol. [80](https://doi.org/https%3A/doi.org/10.1007/s10734-019-00464-7), No [1](file:///C%3A%5CUsers%5CEditor%5CDownloads%5C1), pp. 57–74. [https://doi.org/https://doi.org/10.1007/s10734-019-00464-7](https://doi.org/https%3A/doi.org/10.1007/s10734-019-00464-7)

MARGINSON, S. 2021. “What drives global science? The four competing narratives” In: Studies in Higher Education. Pp. 1–19. [https://doi.org/https://doi.org/10.1080/03075079.2021.1942822](https://doi.org/https%3A/doi.org/10.1080/03075079.2021.1942822)

MARGINSON, S. 2022. “What is global higher education?” In: Oxford Review of Education. Vol. 48, No 4, pp. 492-517. <https://doi.org/10.1080/03054985.2022.2061438>

 MARGINSON, S.; YANG, L. 2022. “Individual and collective outcomes of higher education: A comparison of Anglo-American and Chinese approaches” In:  Globalisation, Societies and Education. Vol. [20](https://doi.org/https%3A/doi.org/10.1080/14767724.2021.1932436), No 1, pp. 1–31. [https://doi.org/https://doi.org/10.1080/14767724.2021.1932436](https://doi.org/https%3A/doi.org/10.1080/14767724.2021.1932436)

MARTYNIUK, I.; IVANOVA, I.; TSYMBAL, Y.; YAKUSHKO, K. H.; KOCHETKOVA, I. 2023. “Ensino superior na Ucrânia: Análise dos desafios globais do século XXI” In: Política e Gestão Educacional, Araraquara. Vol. 27, No 2, pp. 1519-9029. [https://doi.org/10.22633/rpge.v27iesp.2.18379](https://www.google.com/url?q=https://doi.org/10.22633/rpge.v27iesp.2.18379&sa=D&source=editors&ust=1694679074661961&usg=AOvVaw1B5rV_HuqF7YmlDkxTSQwa)

MCGREAL, R.; OLCOTT Jr, D. 2022. “A strategic reset: micro-credentials for higher education leaders” In: Smart Learning Environments. Vol. 9, No 1, pp. 9. https://doi.org/10.1186/s40561-022-00190-1

PÉREZ‐DELHOYO, R.; MORA, H.; MARTÍ‐CIRIQUIÁN, P.; PERTEGAL‐FELICES, M. L.; MOLLÁ‐SIRVENT, R. 2020. “Introducing innovative technologies in higher education: An experience in using geographic information systems for the teaching‐learning process” In: Computer Applications in Engineering Education. Vol. 28, No 5, pp. 1110-1127. <https://doi.org/10.1002/cae.22287>

PIROS, S.; KOOPS, J. 2020. “Towards a sustainable approach to EU education diplomacy? The case of capacity-building in the eastern neighbourhood” In: Cultural diplomacy in Europe: Between the domestic and the international. Pp. 113-138. <https://link.springer.com/chapter/10.1007/978-3-030-21544-6_6>

SEREDA, I.; KARSKANOVA, S. 2021. “Influence of psychological and pedagogical features of students on their activity in self- education” In: Pedagogika-Pedagogy. Vol. 93, No 8, pp. 1065- 1087. [https://doi.org/10.53656/ped2021-8.04](https://www.google.com/url?q=https://doi.org/10.53656/ped2021-8.04&sa=D&source=editors&ust=1694679081625928&usg=AOvVaw2Bo_XqXWzZHNH8NugFaNIF)

STAMELOS, G.; ADAMOPOULOU, A. 2023. “Initial Teacher Education in the Region of Western Greece: What Does the Student Learn from the Curriculum?” In: Futurity Education. Vol. 3, No 2, pp. 156–181. [https://doi.org/10.57125/FED.2023.06.25.11](https://www.google.com/url?q=https://doi.org/10.57125/FED.2023.06.25.11&sa=D&source=editors&ust=1694679081625403&usg=AOvVaw1IdHsoqHg9t5l0NNxdNgz2)

TELLING, K.; SERAPIONI, M. 2019. “The rise and change of the competence strategy: Reflections on twenty-five years of skills policies in the EU” In: European Educational Research Journal. Vol. 18, No 4, pp. 387-406. <https://doi.org/10.1177/1474904119840558>

TKACHOVA, N.; SAIENKO, V.; BEZENA, I.; TUR, O.; SHKURAT, I.; SYDORENKO, N. 2021. “Modern trends in the local governments activities” In: Journal of Interdisciplinary Research. Vol. 11, No 02-XXII, pp. 112-118. [https://edukacjaustawicznadoroslych.eu/index.php/pl/eud/2021/2](https://www.google.com/url?q=https://edukacjaustawicznadoroslych.eu/index.php/pl/eud/2021/2&sa=D&source=editors&ust=1694679081625864&usg=AOvVaw2b2eEBWouYW0S2VUt7zJd0)

TSEKHMISTER, Y. 2022. “Education of the future: from post-war reconstruction to EU membership (Ukrainian case study)” In:  Futurity Education. Vol. 2, No 2, pp. 42-52. <https://doi.org/10.57125/FED/2022.10.11.28>

TSEKHMISTER, Y. V.; KOTYK, T. M.; MATVIIENKO, Y. S.; RUDENKO, Y. A.; ILCHUK, V. V. 2021. “La efectividad de la tecnología de realidad aumentada en la educación STEAM” In: Apuntes Universitarios. Vol. 12, No 1, pp. 250–267. <https://doi.org/10.17162/au.v11i5.932>

VEIDEMANE, A. 2022. “Education for sustainable development in higher education rankings: Challenges and opportunities for developing internationally comparable indicators” In: Sustainability. Vol. 14, No 9, pp. 5102. <https://doi.org/10.3390/su14095102>

VERA-BACETA, M.; THELWALL, M.; KAYVAN KOUSHA, K. 2019. “Web of science and scopus language coverage” In:  Scientometrics. Vol. [121](https://doi.org/https%3A/doi.org/10.1007/s11192-019-03264-z), No [3](file:///C%3A%5CUsers%5CEditor%5CDownloads%5C3), pp. 1803–1813. [https://doi.org/https://doi.org/10.1007/s11192-019-03264-z](https://doi.org/https%3A/doi.org/10.1007/s11192-019-03264-z)