Modernising the theoretical and practical aspects of national education system development

Abstract

The purpose of scientific exploration is to determine the factors influencing the processes of modernization of education in the national cluster. The task of the article is to characterize the socio-economic, political, and cultural elements of national development that influence the educational space, forming the basis for the implementation of innovative transformations in the practical learning activity and their prospects in the strategies of educational development. In addition, modernization of education occurs in the context of globalization challenges, which leads to a certain leveling of the national factor. However, it is the national characteristics that often become the fundamental elements identifying the educational identity of a state or region. The methodological arsenal through which the attempt is made to implement the objectives of the scientific article can be divided into a general scientific cluster (analysis, systematization, classification); elements of scientific-pedagogical discourse (pedagogical

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Modernising los aspectos teóricos y prácticos del desarrollo del sistema educativo nacional

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Abstract

The purpose of scientific exploration is to determine the factors influencing the processes of modernization of education in the national cluster. The task of the article is to characterize the socio-economic, political, and cultural elements of national development that influence the educational space, forming the basis for the implementation of innovative transformations in the practical learning activity and their prospects in the strategies of educational development. In addition, modernization of education occurs in the context of globalization challenges, which leads to a certain leveling of the national factor. However, it is the national characteristics that often become the fundamental elements identifying the educational identity of a state or region. The methodological arsenal through which the attempt is made to implement the objectives of the scientific article can be divided into a general scientific cluster (analysis, systematization, classification); elements of scientific-pedagogical discourse (pedagogical

Resumen

El propósito de la exploración científica es determinar los factores que influyen en los procesos de modernización de la educación en el segmento nacional. La tarea del artículo es caracterizar los elementos socioeconómicos, políticos y culturales del desarrollo nacional que influyen en el espacio educativo, formando la base para la implementación de transformaciones innovadoras en la actividad práctica de aprendizaje y sus perspectivas en las estrategias de desarrollo educativo. Además, la modernización de la educación se produce en el contexto de los desafíos de la globalización, lo que conduce a una cierta nivelación del factor nacional. Sin embargo, son las características nacionales las que a menudo se convierten en los elementos fundamentales que identifican la identidad educativa de un estado o región. El arsenal metodológico a través del cual se intenta llevar a cabo los objetivos del artículo científico puede dividirse en grupo científico general (análisis, sistematización, clasificación); elementos del discurso científico pedagógico

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experiment, modeling); philosophical-scientific methods (dialectics, synergy) The optimal result of education modernization is to increase the efficiency of the educational system while preserving the national authenticity of the educational environment.

**Keywords:** national education, educational strategies, educational process, educational innovation, transformation of education.

**Introduction**

National education has a number of features that determine its development in the global general education environment. At the same time, two key contexts stand out:

- National Education as an Authentic Element of Socio-Cultural Development of Society;
- National education in the system of global educational paradigm.

We consider education in the state or suprastate education at the macro level, which determines all components of the functioning of education. One of these components is the process of modernization of education. Modernization should be considered in two contexts because in this way it is possible to study this process most fully and from all angles.

The state takes a pragmatic approach to education, as it does to any other sphere. Modernization at the national level and at the domestic educational level are completely different, both in their intended purpose and in the format of education. At the national level modernization is carried out to improve the effectiveness of the education system. In addition, the state always monitors the results and consequences of the modernization of the national education system.

The state must consider the needs of all participants in the educational process. It is necessary to motivate the teaching community, applicants, and administrations of educational institutions to the need to implement innovations in the educational system.

Modernization of education is impossible without a worldview transformation in society. Since we are considering national education, we should talk about such aspects as mentality, cultural identity. Society must be mentally ready for educational transformations, otherwise, no initiatives from the state will succeed. In this context, we can clearly distinguish between theoretical and practical aspects of the modernization of national education. Theoretical are considered to be national educational strategies that define long-term or short-term ways of developing education. Practical ones refer rather to the elements of the functioning of the system of national education (pedagogical innovations, educational technologies, digital educational space).

National institutional capacity is important in promoting education modernization (Zhou, 2019). The role of state macro-management largely determines the strategic priorities for the development of a particular area of public activity. Socio-political, socio-economic, and cultural factors create the basis for the practical implementation of educational transformations. The state performs the controlling function of the educational system. Education, in its turn, functions according to its own paradigmatic canons, allowing the intervention of state structures.

The purpose of scientific exploration is to determine the factors that ensure the modernization of education at the national level. The main research question of the article is the influence of socio-economic, political, and cultural elements of national development on innovative transformations in the education system. National educational strategies shape the priorities and ways of educational modernization. Educational activity in educational institutions implements innovative transformations, introducing national education to global educational trends while preserving its identity and distinctiveness.
Theoretical Framework or Literature Review

The problems of modernization of education are widely enough represented in the modern scientific and pedagogical discourse. When considering the problems of modernization of the national education system two clusters of scientific research are distinguished:

- modernization of public education in the context of global educational transformations;
- internal national aspects of modernization of the educational environment.


The relationship between educational modernization and transformation within the state is described by Sun (2021). Al-Ababneh & Alrhaimi (2020) note that educational governance is essential to the successful planning, implementation, and control of national educational modernization. Universal practice-oriented elements of education modernization are highlighted in Diachok, Chernukha, Tokaruk, et al. (2020). Solmaz, Alfaro, Santos, et al. (2021) argue that in the national dimension, the effectiveness of technological or digital innovation depends on the level of community development. The theoretical-methodological and teaching-methodological aspects of the modernization of the national education system are outlined in Antonivska (2022).

The human dimension of educational transformations within a particular national community was investigated in the work of Daniëls, Hondeghem & Dochy (2019).

Methodology

The methodological arsenal for the study of national education modernization consists mainly of the methods of scientific and pedagogical discourse. However, since the problem has a nationally-oriented coloring, cultural, sociological, and other methods of the general humanities-scientific cluster are added.

The methodological basis of scientific exploration consists of three fundamental clusters:

- General scientific methodology. Through analysis, classification, and systematization, a general national educational paradigm is formed, where the practice-oriented components, which are modernized and improved, and theoretical and methodological elements, which determine the priorities of development, are clearly traced.
- The methodology of scientific and pedagogical discourse. Pedagogical experiment along with other empirical methods allows to actualize of the practical aspects that need modernization or are being modernized. Modeling provides an understanding of the ways of development of a separate national education system as well as the development of education of a separate community (state, regional or cultural) in the globalization context.
- Philosophical-scientific methodology. The dialectical method allows correlating practical and theoretical elements of national and global educational systems in the context of the need for their progress and development. The synergetic method provides a correlation of national education system modernization positions in practical and theoretical manifestation due to the principles of self-organization and interdisciplinarity.

Sociolinguistic methods are an important and relevant element in the consideration of the problems of modernization of education, as they provide an understanding of the communicative component of the modernization processes of digitalization (Antonivska, 2022).

A new methodology that is relevant in the context of modernization of the education system and concerns the pedagogical specialist is defined as the development of pedagogical technology of teachers (ETPD) (Lidolf & Pasco, 2020).

In the current interpretation, research and development (R&D) methodology is integrated into the national education system (Gustiani, 2019). Implementing an interdisciplinary methodology allows education applicants to develop professional competencies by synthesizing knowledge and skills across many disciplines to solve individual problems, which is not possible with a single disciplinary dimension.
We see the methodology of meaning-pedagogy as a relevant methodological approach for considering the problems of education modernization, which fully allows us to take into account the mental and cultural aspects of national life (Beligatamulla et al., 2019).

Results and Discussion

Modernization of education involves updating all of its elements, depending on the needs of the educational space and the aspirations of participants in the educational process. If in the educational (pedagogical, organizational, or methodological) dimension modernization follows clearly defined algorithms, then in the national educational dimension the system faces certain contradictions between global innovative trends and traditional educational devices. Consequently, we get a format in which modernization is an irreversible process, but all transformations take into account the principles of the national worldview.

Education governance is a determining factor in the development of this sphere of public activity (Al-Ahban & Alrhaimi, 2020). Modernization of education takes place in several dimensions and each of them should have organized and effective management (see Table 1).

Table 1.
Management of modernization actions in education

<table>
<thead>
<tr>
<th>Educational and pedagogical dimension</th>
<th>Development of educational strategies and teaching and methodological arsenal based on progressive methodological guidelines</th>
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<tbody>
<tr>
<td>Educational and organizational dimension</td>
<td>Introduction of alternative formats for organizing the educational process</td>
</tr>
<tr>
<td>Information and Communication Dimension</td>
<td>Providing the necessary resources developing and broadcasting instructional content</td>
</tr>
<tr>
<td>Techno-digital measurement</td>
<td>The use of the latest digital technologies in the educational environment</td>
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Source: Own development of the authors

Each of these dimensions requires clear management. Within the educational environment, such management is practically impossible since education is not a completely autonomous sphere and is largely dependent on the economy or culture. There is no such problem for the state level since the state apparatus ensures a constant and coordinated policy on all socio-cultural spheres from all sides. Consequently, modernization is also carried out according to certain algorithms and depending on the real possibilities of providing educational transformation.

Education becomes the ideal platform for the training of human resources for the state apparatus. Therefore, modernization elements concern such a concept as leadership in education (Daniëls, Hondeghem & Dochy, 2019). The human dimension is also in need of transformation and reform. Preparing not just a specialist who acquires professional competencies, but also a leader who is able to take responsibility and be proactive. Reforms in education are one of the most important tasks of the state system. The goal of these reforms is to ensure the effective development of all participants in the educational process (Choi & Walker, 2018).

The balance of supply and demand in the labor market plays an important role in the positioning of education in the national dimension. Education adapts to socio-economic demands. Modernization of education occurs not so much for the sake of changes in education. As a rule, the transformation of the educational environment is dictated by the professional and qualification parameters that the community needs (Baldyniuk et al, 2021).

One of the fundamental directions of modernization is the digitalization of the educational process. The use of technology significantly increases the quality of education. In many ways, the implementation of educational technology (EdTech) depends on the level of development of the community which implements these innovations. The peculiarity (EdTech) is a systematic approach in their implementation in practice (Bozkurt, 2020). The state apparatus, functioning at the national level, is able to form the proper algorithms for the application of technology. The digital age
focuses not on form, but on efficiency (Olszewski & Crompton 2020). The digital component acts as an innovative factor for the national dimension of education.

“The convergent impact of globalization, ICT, and the explosion of knowledge has led to phenomenal changes in contemporary society that have challenged every aspect of our modern way of life. To cope with these fast-moving changes, we need to prepare a specialist for this digital age. To prepare citizens with a cosmopolitan worldview, an intercultural understanding, the ability to work in multicultural environments on group projects, and the ability to think creatively and critically, we need a progressive approach to providing education. Arguing that education is the engine and strength of a nation based on its quality education, a country must provide a calibrated education to prepare globally competitive citizens.” (Malik, 2018).

An integral part of the formation of a coherent system of national education is the information segment. Information has many nuances that require correlation in its use in the educational space. Therefore, modernization of the information component in the national dimension is similar to computer programs that require constant updating for successful operation. Working on the information cluster should all participants in the educational process, ensuring the effectiveness of this element in the educational system (Chen et al., 2020).

When we consider the problems of modernization of the national education system, we should realize that the modernization of education in the modern world primarily concerns the practice-oriented segment, which undergoes radical changes through the introduction of new technological or digital elements. Digitalization and technologization completely renew the material and technical and educational-methodological support of the educational process. Therefore, practice-oriented aspects are a priority in the processes of education modernization (Diachok, Chernukha, Tokaruk, et al., 2020).

The moral and spiritual aspects of educational development should not be dismissed either. Of course, when we consider the national system of education, modernization is primarily in need of teaching and pedagogical or material and technical elements. When the moral-spiritual segment in education is actualized, then we are not talking primarily about modernization in the usual materialized meaning, but about the renewal of worldview beliefs. For example, in Western society modernization in education is perceived as something ordinary and customary and does not provoke any reaction. Educational transformations in more conservative communities need to prepare society for innovations in education or other areas. In this context, the spiritual development of societies is a paradigmatic dimension (Moulin-Stożek, 2020). Moral-spiritual values represent a kind of worldview stabilizer in times of turbulent transformations in social life. In education, spirituality provides insight into the needs of modernization and facilitates the adaptation of new methods of teaching and new mechanisms of the educational process.

In higher education institutions where theology and art are taught, the specialties "Sacred Art" and "Theology of the Icon" provide for the acquisition of comprehensive knowledge by applicants for education, as well as consolidation, expansion and deepening of knowledge of abilities and skills of future specialists of the degree of "bachelor" and "master" of higher theological education. Priority subjects to ensure the acquisition of this knowledge are the disciplines "Sacred Art" and "Theology of the Icon", which were introduced in the late 90's in the educational programs of specialties of cultural and artistic direction in the institutions of catechetical and theological direction. Within the limits of these subjects the tasks which are defined in deepening of knowledge of the future expert to theoretical and practical application of knowledge of art history, acquaintance with history of formation and development of world and Ukrainian art as a part of culture and its place in the system of artistic, theological, art and cultural-educational practices. The knowledge acquired while studying the discipline will enhance the competitiveness of young professionals in the labor market. The study of artistic and cultural aspects of sacred art provides the formation of practical skills of the student theologian - catechist and teacher; his communication experience for further pedagogical activity, creation of performing interpretive concepts, their delivery to listeners. An important component of modern research in the theological and artistic direction becomes the Ukrainian content and context, in particular reliance on the practice of iconographic and iconological works of Ukrainian artists, the modern experience of perception and understanding of sacred art (theology of the icon), in particular academic, by Ukrainian cultural connoisseurs.
The national dimension is an existentially important continuity and heredity of educational space. In this aspect, quite often there are contradictions associated with the influence of modernization of education, in some places without alternative changes to the traditional precepts of the educational process.

“The heritage of ethnic cultures is an important topic in the field of educational anthropology. As the most important channel for the transmission of ethnic cultures, education has a strong influence on this heritability. Today, however, the speed of globalization is rapidly increasing. In domestic or foreign education, in elementary or higher education, the increasing challenges in education are leading to profound changes. One of the most important developments in education today is the cultivation of diversity. Increasing diversity in education will have a profound effect on the inheritance of ethnic cultures.” (Zhang, 2019).

The above contradictions are resolved differently in different national communities. The Western world, historically more accustomed to globalization and integration formats, sees modernization of education as a priority. At the same time, oriental communities, which are more conservative, are quite cautious in introducing educational innovations at the national level, always correlating them with traditional elements of their culture.

Historically, the modernization of education together with the development of science is uniformly transformed into the modernization of the country as a whole. That is, we observe an interrelated process: first, the state, using all necessary levers, provides modernization of the national educational sector, and then the result of educational development becomes the locomotive of state progress. Such investment in education has a high return. One of the positive consequences of the modernization of national education is the further modernization of public administration (Sun, 2021).

Public policy is aimed at the basic principles of sustainable development. Radical changes or revolutionary shifts in any sphere have a devastating effect on the state structure. Therefore, the system of national education is shaped by the principles of stability, not excluding the introduction of innovation. The transformational capacity of education contributes to the transition to resilience (Kioupi & Voulvoulis, 2019). Education acts as a stabilizing factor in the life of the state. Innovation in education is implemented gradually, which allows for the constancy of development. The results of modernization become benchmarks for reforms in other sectors.

A cross-disciplinary approach is better suited for the national education system to modernize the industry (Bassachs et al., 2020). In general, traditional for the educational process in institutions of catechetical-theological education trends of interdisciplinary interaction have already in recent decades caused not only the appearance of separate subjects of general humanities, philosophical-theological, cultural-artistic cycle, uniting different branches of knowledge, but also actualize in the formation of new interdisciplinary educational programs, specialties and specializations of private institutions of higher education. One of the significant theological fields in this interaction is the history of sacred art and theology of the icon. The study of historical and artistic aspects of Christian East and West constitutes an integral component of the humanities disciplines, among which pedagogical and professionally oriented ones take precedence. Through interdisciplinary integration, we get a powerful synergistic effect that significantly increases the level of interaction between the participants in the educational process (see Fig. 1).
Educational departments and institutions develop educational strategies that plan the development of the national education system. Depending on the needs of the state and global challenges, planning for the modernization of education in the long term and short-term plans is formed.

The administration of educational institutions receives the necessary algorithms to form the priorities of the educational institution. With the right approach, the autonomy of an educational institution is gradually formed, allowing to carry out educational modernization, correlating its course and potential consequences with the national educational strategies.

Pedagogical specialists develop practically oriented working curricula and programs, taking into account the trends of educational development and guided by the guidelines of the national educational strategy. Curriculum and practice elements of the educational process are improved and supplemented in accordance with modernization plans.

Finally, applicants of educational levels, from pupils to students, are interested in the national education system to be competitive at the international level and prepare demanded and highly qualified specialists. Acquisition of necessary hard-soft- and digital skills is actually impossible without modernization of education with the attraction of progressive ideas of digitalization, technologization, and informatization of education.

This is how the synergetic effect of the modernization of the national education system is formed when each participant of the educational process understands the purpose and format of innovative transformations. In addition, the modernization of the national education system opens up new opportunities at the international level, as the subjects of national education can cooperate with colleagues from other states or in the global world educational market.

In addition, in today's globalized world, we have the opportunity to observe, virtually online, what positive or negative consequences result from the implementation of innovations in a particular national community. This experience can be useful in implementing similar transformations in another national space.
Conclusions

Consequently, the national education system under any conditions needs modernization, because the rapid global development of civilization dictates its own conditions of socio-cultural development. When we consider the national educational cluster, modernization in it has several dimensions, one of which is the theoretical and practical transformation of the educational environment. Theoretical precepts are expressed by educational strategies that determine the priorities of national education development, which lay down the principles, ways, and means for modernization. Practically oriented modernization of education depends on the state’s capacity to provide its infrastructural, technological, and informational conditions.

An important aspect in the modernization of national education is the preservation of its authenticity. Naturally, education must respond to total globalization, integration processes, and the internationalization of modern socio-cultural space. However, it should be understood that the identity of national education (along with culture, language) is a fundamental element of national development.

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