"TRENDS OF SCHOOL EDUCATION DEVELOPMENT IN THE EU COUNTRIES, USA AND CHINA" (2018-2020): RESEARCH RESULTS OF THE COMPARATIVE EDUCATION DEPARTMENT, INSTITUTE OF PEDAGOGY OF NAES OF UKRAINE



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Abstract. The aim of the paper is the presentation of the research results of the scientific work of the Comparative Education Department (Institute of Pedagogy NAES of Ukraine) "Trends of School Education Development in the EU countries, USA and China (2018-2020). The Department staff – O. Lokshyna, Dr. Sc., Prof. (research director); O. Glushko; A. Dzhurylo, PhD; S. Kravchenko, Ph.D; N. Nikolska, PhD; M. Tymenko, PhD; O. Shparyk, PhD – studied the transformations of the school education in the European Countries (Germant, Poland UK) in USA and in China/ The authors recealed the unification character of the globalization on the development of education in these countries; stated the impact of the strategic benchmarks of the international organisations (UN, UNESCO, OECD, EU) on education policies; underlined the importance for Ukraine to harmonise its education development with the global and European tendencies within the framework of equal access to education and quality education.

Key words: Comparative Education Department; Development Trends of School Education; European Union (EU); Germany; methodology; Republic of Poland; Ukraine; USA.

INTRODUCTION

Analysis of prospective foreign experience is important under education reform in Ukraine. The Law of Ukraine "On Education" (2017) proclaims that state policy in the field of education is formed and implemented on the basis of scientific research, international obligations, domestic and foreign experience with allowance for projections, statistical data and development indicators in order to satisfy the individuals and society requirements, which actualizes a thorough understanding of foreign countries experience. Article 5 of the Law

names integration into the international educational and scientific space among the principles of state policy in the field of education and principles of educational activity, which necessitates research of prospective ways and effective tools to synchronize national education with key vectors of education in leading countries.

The Concept for the Implementation of State Policy in the Area of General Secondary Education Reform "New Ukrainian School" for the period by 2029 (2017) provides methodology for a fundamental and systemic reform of general secondary education. The Concept takes into account the experience of the leading countries of the world, which, in the context of globalization, are working together over the solution of existing challenges (Lokshyna, 2017; 2018b; 2019c; Kremen, Liashenko, & Lokshyna, 2020; Savchenko & Lokshyna 2020).

The leaders in this process are the countries of the European Union (EU), the USA, China, which demonstrate progress in improving the quality and efficiency of education; promoting equal access and quality, intensifying creativity, and innovation. In particular, in the framework for European cooperation in education and training (Education and Training 2020), the EU has set four objectives for the development of education systems in the Member States: making lifelong learning and mobility a reality; improving the quality and efficiency of education and training; promoting equity, social cohesion, and active citizenship; enhancing creativity and innovation, including entrepreneurship, at all levels of education and training. The choice of the EU for research is due to the leading role of this supranational entity, which determines the development strategy of not only the Member States, but also the Europe, focusing on the ideas of economic leadership and social integration. Ukraine geographically, historically, culturally and economically belongs to Europe, and therefore is subject to the common European coordinates of development.

In 2015, taking into account new realities and challenges, the joint report of the European Council and the European Commission "New Priorities for European Cooperation in Education and Training" proposed a renewed vision of the objectives, which include: relevant and high-quality knowledge, skills and competencies developed throughout lifelong learning focusing on learning outcomes for employability, innovation, active citizenship and wellbeing; inclusive education, equality, fairness, non-discrimination and the promotion of civic competence; open and innovative education and training for the digital age; strong support for teachers, educators, school leaders and other educators; transparency and recognition of skills and qualifications to facilitate learning and workforce mobility; stable investments, quality and efficiency of education and training systems (Lokshyna, 2019d).

Reforms in the United States (US) are aimed at achieving excellence in education with an emphasis on standardized testing, improving the quality of teachers' work, administrators, and improving educational content and educational environment. The second level of reform encompasses transformations at the state level, where the interpretation of the federal version of the reforms and the development of tools to respond to them take place. The Education Law "The Every Student Succeeds Act" (ESSA) (2015,) maintains the priority of excellence in education. The Presidential Memorandum on Increasing Access to High-Quality Science, Technology, Engineering, and Mathematics (STEM) Education (2017) guides US education in an innovative direction. The research of processes taking place in the education of the US in the context of increasing interaction between the federal government and the states is of value for Ukraine, which has set itself the task of developing an effective system of quality assurance and accountability in education in the context of decentralization.

Educational reforms in China have been going on for more than thirty years. In accordance with international comparative studies they have ensured the country's entry into the top five countries with high quality education. Education in China today is developing in the direction of improving the quality and ensuring equal access to it. China shows the

best results in International comparative studies, that seems to be very perspective to research education transformations in this country.

So, the leading countries of the world have accumulated valuable experience in the educational sphere, which requires careful understanding and widespread dissemination in national education, but at the same time there is a lacks of conceptual and technological models of their adaptation to the general vectors of development of educational systems abroad. This contradiction has determined the relevance of the development of the research problem.

METHODOLOGY

An important methodological guideline is the insights of Ukrainian scientists (Dubasenyuk, Lugovoy, etc.) about nature of trends that are classified according to the following principles:

- by duration (short, medium and long term),

- by prevalence (local, national, regional, world),

- by scope (general, special, specified),

- by the nature of the impact (defining, leading, key, peripheral),

- by attributiveness (changes, development, functioning, etc.),

- as of the current moment (current, anticipated changes, projected, past periods).

In the field of comparative education studies, the "trend in the development of education" is considered as a basic category. The identification of trends in the development of education in different countries, geopolitical regions and on a global scale, the ratio of general trends and national or regional specifics is determined by leading comparativists (at the level with the identification of patterns) as an objective of comparative education (Woulfson and others).

The projection of such an approach to the academic research work "Development Trends of School Education in EU countries, USA and China" substantiates the research format, which involves identifying the direction of movement of school education in the EU countries, the USA and China, revealing the essence of this movement.

The research is based on the following provisions:

– the leading countries of the world are actively reforming their national education in the context of globalization;

- common challenges unify countries' approaches to reform;

- all this contributes to the synchronization of educational strategies, forms general trends in the development of national education systems;

- the accumulated experience of reforms is of interest to domestic pedagogical theory and practice in the aspect of correlating the vector of modernization of Ukrainian education with the directions of development of education abroad.

From this perspective the development of education was investigated in the generality of theoretical foundations and practical approaches.

The study was based on a comparative and systematic approach.

The comparative approach provides an opportunity to compare pedagogical phenomena on the basis of commonality in the presence of certain principles, which includes: the principle of objectivity, the principle of correspondence of research methods to scientific methods of cognition and current problems of modern pedagogy, the principle of creative interpretation of the results of comparative research in order to avoid the mechanistic transfer of its elements on national soil without taking into account the realities and tasks of the Ukrainian school and the state of its development.

The inclusive approach has provided for the consideration of various aspects of transformations in a holistic dimension in the unity of their interrelationships.

The chronological framework of the study covers the 20th century, which is determined by the intensification of economic and cultural globalization processes, the rapid development of ICT. By causing the openness of borders, the intensification of intercultural interaction, as well as increased competition between countries, globalization leads to multidimensional transformations in the educational systems of the leading countries of the world.

MAIN RESULTS

It was revealed that within the framework of field theory, the terminological field is defined as a group of words of one language that have a sufficiently dense semantic connection. Basing on semantic commonality in the terminological field of the academic research work "Trends of School Education Development in the EU countries, USA and China" (2018-2020), terms such as "trend", "development", "school education", "EU countries", "USA", "PRC". The term "trend" is referred to the basic unit of the terminological field.

It is revealed that in defining dictionaries "tendency" is interpreted as quantitative and qualitative changes in the investigated movement or idea. In particular, in the Academic Explanatory Dictionary of the Ukrainian language "tendency" is interpreted as the direction of development of something. At the government level in Ukraine (in a broad sense) a term "trend" is interpreted as irreversible changes of a certain direction, determined through the implementation of specific conditions according to the laws of functioning.

It was confirmed that the English explanatory dictionaries, the term "trend", which is synchronized with the Ukrainian "тенденція", is interpreted as "general development or change in a situation" (Cambridge Dictionary), "change or development in the direction of something new or different" (Collins Dictionary), "general movement over time" (Merriam-Webster).

It is stated that in the context of modern methodological approaches to comparative pedagogical research, "tendency" is understood as the direction of the movement, and the qualitative changes that occur during this movement in education.

It has been proved that the trend is one of the basic scientific categories of comparative pedagogy, since the comparative pedagogy purpose in the international scientific space is to study the state and identify trends and patterns in the educational theory and practice development in countries / regions of the world and on a global scale against the background of national specifics to identify forms / ways to optimize national education through the use of foreign experience. The effectiveness of the trend analysis method for studying the development of phenomena in education (OECD) is emphasized. This method provides the logic of highlighting general transformations, the imperious characterization of their essence, the determination of the projection.

The conclusion is made about the special importance of a comparative study of trends in the development of education in the context of globalization, forms the vector of development of modern societies, contributes to their synchronization. This allows us to predict the development of systems, including education (Lokshyna, 2018c; 2019b).

The leading tendencies at the present stage of development of school education in Germany are identified and characterized: **quality assurance (modernization** of all educational stages: *preschool education* – expansion of the preschool institutions network, maximum involvement of preschool children in the educational process, changing exclusively from play activity to educational play, improving the quality of preschool education, introducing co-financing and quality standards at the federal state level in the Federation; *school education* – ensuring a successful transition between educational levels in order to improve equity and the most comfortable and effective inclusion of primary schoolchildren in the educational process,

prevent premature graduation from school, improve the quality of knowledge students of unfavorable socio-economic background; *vocational education* – a stable improvement in the quality of vocational education); **renewal of teaching staff and teaching profession popularization** (complete renewal of the teaching staff, increase in remuneration, ensuring the high quality of teaching); **regionalization of education** (reduction of regional differences in the educational sphere, is observed in the western and eastern lands of Germany in the form of excellent pay financing, etc.); **equal access to education** (implementation of the equal access principle to education regardless of material status and origin; enhanced work with children of emigrants); **digitalization of education** (federal funding for equipping/re-equipping all schools in Germany with high-speed Internet, laptops, tablets and all the equipment necessary for schools, the adoption of the digitalization pact – Digitalpakt Schule (2019), which provides for the allocation of 5 billion euros from the federal budget for the introduction of digital technologies in German schools, initial and further digital training of teachers, viewing curricula, purchasing software for teaching, as well as protecting and digital infrastructure support) (Dzhurylo, 2018; 2019a; 2019b; Dzhurylo & Shparyk, 2019; Lokshyna et al., 2020).

It has been found that secondary education in the UK is constantly evolving and improving. Today the main tasks of the school are radically changing in comparison with the tasks of the last century. They are not about giving the student a certain education in a synthetic capsule, but about equipping him with the ability to work in an environment where knowledge and technology are changing much faster than generations of people. It has been proven that under these conditions the importance of such a skill as self-learning increases. Self-learning becomes essential in adjusting to the changing needs of the labor market. Education in the 21th century is characterized by the personality constant development, his abilities, talents, skills, that is, learning throughout life. Some of the tasks that UK secondary schools set themselves in the process of teaching and educating students are: awareness (understanding of one's strengths, needs, interests, aspirations and values, the ability to make decisions (understanding how to make decisions about one's capabilities) and skills self-learning of students, for example, when a student plans his own learning and then independently learns according to the developed plan. Preparing for self-teaching is the development of the ability to search and critically use sources of information (from libraries to the Internet), teaching analysis and data synthesis. This changes the role of the teacher - he does not so much supply knowledge as he helps the student to create and implement programs (Tymenko, 2018; 2019; Lokshyna et al., 2020).

It was revealed that there have been significant changes (during 2018-2019. Appropriate additions and amendments were made to the Teacher's Card Law) to increase the prestige of the teaching profession and modernize labor standards for teachers and update the rules for obtaining a particular qualification level. Since September 1, 2019, teachers' salaries have been increased by 16.1%, and in 2020 another salary increase by 6% is planned. Consequently, increasing teachers' salaries is one of the priorities of the country's national educational policy in the long term, designed to encourage young teachers interested in developing the teaching profession to work in schools.

Support for innovation and the modern technologies introduction in the educational process is also possible thanks to the introduction of the Polish National Education Network (OSE), which provides all schools with free access to broadband Internet, as well as the Active Board program. As part of the Active Board program, modern multimedia boards are being introduced; 279 million zloty have been allocated for its implementation. In addition, earmarked funds have been allocated for a program to re-equip natural laboratories. This will provide schools with modern equipment and raise education to a higher level.

In addition, the educational reform provides for the inclusive education development, in particular, it is about creating conditions for ensuring equal access to education for children

and youth with special needs, namely, providing them with the opportunity to study in all types of schools. In addition, the need to create conditions to ensure their educational needs through the implementation of an individualized educational process, the development of appropriate curricula, as well as the creation of rehabilitation classes.

There is an intensive development of school education in Poland, which is designed to harmonize the characteristics of the educational system with European strategic guidelines as much as possible. Highlighting trends in the school education development, namely: improving the quality and accessibility of education; modernization of preschool education; modernization of the structure and school education content; further improvement of decentralization vectors in education; increasing the teaching profession prestige; digitalization of the educational process, – found a systemic movement on the way to effective, qualitative changes in education. Consequently, they are considered key, that is, the most ambitious, since they reveal the nature of the school education development at the systemic level. This movement meets the expectations of the teaching community and the entire Polish society – from school leaders, teachers, pupils, parents and the governing bodies of schools and institutions.

It is concluded that the modernization vector of educational reforms in the Republic of Poland is synchronized with the strategic policy of the EU, namely, with strategic European documents ("Europe 2020", "Horizon 2020", "Education 2030", etc.). It is noted that the national structures of the country responsible for the development of education should plan in advance and accordingly respond to dynamic changes in the world and to the needs of the labor market (Lokshyna, Glushko & Tymenko, 2018; Hlushko, 2019; Lokshyna et al., 2020).

In the research it has been examined the key laws in education that have been shaping US educational policy over the past decades. Just to name a few:

- No Child Left Behind Act (NCLB, signed by George W. Bush in 2002), which introduced educational reform based on a philosophy of high standards and specific school objectives, will improve individual outcomes for public school students. The law requires states to develop standardized exams and assess all students in specific grades in order to receive federal funding. Each individual state was responsible for developing its own standards. The Common Core State Standards Initiative is a statewide program for high school English and math. It is an American education initiative that quantifies English and math in every grade from kindergarten to high school.

- Every Student Succeeds Act 2015 (ESSA) signed by President Barack Obama is a significant addition to the 50-year Elementary and Secondary Education Act Elementary and Secondary Education Act, ESEA). The law underlines a long tradition of commitment to equal opportunities for access to education. For the first time since the 1980s, the law narrowed the role of the US federal government in primary and secondary education. The ESSA retains the 2001 Standardized Testing Act's annual requirements, but transfers federal responsibility to the state level.

It was revealed that the result of American educational policy is that today the average ratings of graduates are the highest, the rate of decline is the lowest. These advances provide a solid foundation for further work to expand educational opportunities and improve learning outcomes.

It is concluded that the current legislation forms the guidelines for the development of modern American education, structuring its trends, as improving quality by optimizing accountability at all levels and ensuring equal access to quality education by introducing special programs at the federal and state levels.

The analysis showed that the trends in the development of modern American education are formed under the influence of global processes, population mobility, as well as to meet the individual and national needs of society. The modern educational process in the USA is saturated with innovations, informatization and computerization of education is taking place (Nikolska, 2019a; 2019b; 2019c; Lokshyna et al., 2020).

In particular, the principles influencing the quality of education (funding of schools, elimination of class overcrowding, application of restorative justice for adolescents, raising educational standards and the introduction of teacher accreditation) are substantiated.

Based on the analysis and synthesis of a number of documents governing American educational policy, including "Education 2030: The Future of Education and Skills", "U.S. Department of Education Strategic Plan for Fiscal Years 2018–22", etc., concluded that ensuring the quality of school education in the United States is implemented through effective organization of the educational process, high qualification of teachers and effective work of secondary schools, as well as through students mastering basic competencies for life.

It has been investigated that the actualization of digitalization as a development trend in education is observed not only in the United States but also around the world in 2020 – during the global pandemic of coronavirus COVID-19, when society is in quarantine. It is concluded that digitalization contributes to the introduction of innovations in the educational process and the development of virtual educational mobility (Lokshyna et al., 2020).

The top trends of digital transformation in education are determined, in particular: 1) augmented reality / virtual reality / mixed reality; 2) classroom set of devices); 3) redesigned learning spaces); 4) artificial intelligence; 5) personalized learning); 6) gamification.

In the context of the transformation of the education system in Ukraine and the application of the progressive experience of the United States, it is recommended to change the emphasis in educational activities aimed at the intellectual development of students; accelerating the reform of secondary education through its digitalization and quality assurance; adaptation of the content of educational programs for online learning; systematic monitoring of the quality of secondary education; motivating young people to education through the formation of modern educational goals, development and implementation of innovative methods and successful educational practices, ensuring a complementary approach, comprehensive, harmonious personal development, early career guidance, effective preparation for admission to higher education; motivation of pedagogical workers through increasing the level of payment for his work, providing academic freedom and stimulating professional growth; introduction of teacher certification; improving the management mechanisms of general secondary education institutions; strategic planning of secondary education development; development of the legal framework for the transformation of the educational process into an online platform; development of state programs, international projects to provide digital devices to students, especially from low-income families and children with special needs; creation of regional, national and international educational platforms for operative exchange of experience; development of international cooperation in the field of education.

Identified and characterized the leading trends in the current stage of development of school education in China: focus on quality / efficiency of education (optimization of the education structure (building a modern education system that serves lifelong learning for everyone), achieving quality and balanced compulsory education; high qualification of pedagogical workers (in particular, improving the quality of teacher training: formation of professional and ethical competence; information and communicative competence of teachers; professional development of rural teachers, introduction of innovative methods of professional development), transformation of content into competence (mastering basic competencies for life), reorientation of the philosophy of education – replacement of traditional school education (examination-oriented learning 应试教育 *yingshi jiaoyu*) with a new 素质教育 *suzhi jiaoyu*), raising educational standards (transition of national education to the level of advanced international standards in combination with the basis of national tradition (basic concepts, ideas and attitudes of Confucianism), improving programs to monitor the Chinese education system; promotion of quality preschool education, comprehensive promotion of higher education, etc.), regionalization of education / equal access to education (building an effective public education system in small rural towns; reduction of regional disparities in education; focusing education on regional conditions and needs; implementation of the principle of equal transparency access to education, ensuring the minimum level of education set by educational standards for each member of society, ensuring equality in admission to educational institutions for all social groups regardless of financial status, nationality, gender, place of residence, decentralization and democratization of management, expanding autonomy of educational institutions with the simultaneous strengthening of their accountability to society), digitalization of education (the use of artificial intelligence in the educational space of the country, the involvement of innovative and digital technologies: computerization of the educational process, innovative pedagogical technologies ogy, construction of individual educational trajectories using artificial intelligence, etc.).

It has been concluded that the nature of educational trends in modern China is determined by global trends in education (sustainable development of affordable and quality education, improving the quality of education, personal development, improving the quality of teacher training, digital technology and artificial intelligence, etc.), but has certain national specifics. It is recommended to improve diagnostic tools for monitoring the Ukrainian education system, decentralization and democratization of management, expanding the autonomy of educational institutions, orientation of education to regional conditions and needs of high qualification of teachers, computerization of educational process, introduction of innovative pedagogical technologies, construction of individual educational trajectories. intelligence, increasing funding and strengthening the material and technical base of the school (Shparyk, 2018; 2019a; 2019b; 2019c; 2020; Dzhurylo & Shparyk, 2019; Shparyk; Lokshyna et al., 2020).

In the conditions of Ukraine's European choice, the importance of studying the experience of countries of the EU and the USA is substantiated. Based on the legislative and strategic documents of national education development (Concept "New Ukrainian School" (2016), Law of Ukraine "On Education" (2017), it is proved that the nature of transformations in EU and US education is of interest to Ukrainian education in terms of vector correlation and essence of educational reforms in Ukraine and abroad.

It is revealed that the directions of school education transformations in Ukraine (decentralization of education, introduction of 12-year school, transformation of education on competency basis, standardization of content, humanization of education, development of quality monitoring of education) are synchronized with educational transformations in the EU and the USA – its transformation into competency-based principles, differentiation of education), management (decentralization-centralization reforms) and education (humanization of school education) (Hlushko, 2019).

CONLUSIONS

Thus, in the process of researching the problem "Development Trends of School Education in EU countries, USA and China":

- for the first time the conceptual dimension of the phenomenon of transformations in the format of tendencies in education is comprehensively considered and the approaches of foreign and Ukrainian scientists to its interpretation are characterized, the semantics of key concepts are specified, it is proved that in the 21th. reforms in education are characterized by multidimensionality with expected and unexpected consequences, the influence of external and internal factors, nonlinearity and phasing of the movement, universal / temporary results, which identifies them with transformations; - the general vision of educational tendencies is revealed and their unifying character is proved, systemic and supranational character under the influence of policy of the international organizations in the conditions of globalization and Europeanization is revealed;

- the various progress of transformations at the level of school education in the format of key tendencies is characterized;

– the challenges that accompany transformations in education in the vision of European and American scientists are identified;

- the prospects of using foreign experience in the conditions of integration of national education in the European and world educational space in the format of recommendations on the basis of comprehension of foreign achievements (all executors) are outlined.

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