

## Secondary education reform priorities under globalisation: the case of Ukraine in comparison with China, Germany and Poland

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**Abstract.** The paper presents the analysis of the secondary education reform priorities in Ukraine in comparison with China, Germany and Poland under globalization. The following research questions were asked: (1) What are the education development benchmarks at the global and European levels? (2) What are the common characteristics of the reforms that countries are implementing guided by global and European benchmarks? (3) Is secondary education reform in Ukraine harmonized with the reforms implementing worldwide? The desk research was used. This manuscript targets the international (UN, EU) and national institutional plans/strategies/movements that have attempted to bring or are bringing systemic change into educational practices (curriculum reforms and operational structures). The study confirms the methodological proposition that globalization changes the very format of educational policy development – the national level is complemented by the supranational level in the face of international organizations. A comparative analysis of the education reforms directions in the analysed countries showed that the countries takes into account the key benchmarks of the international organizations, i.e. ensuring equal access to education and improving its quality. In Ukraine, the new legislation guarantees the enrolment in primary school without a competition; territorial accessibility of general secondary education; financing of educational institutions at the expense of state and local budgets in the amount sufficient to meet state standards; compliance with the requirements of the legislation on the accessibility of educational institutions for persons with special educational needs. The transformation of the content of education into competence bases is another important component of the current Ukrainian secondary education reform. It involves the change of the traditional philosophy – from the transfer of knowledge to the formation of students' vital/key skills/competences (interdisciplinary, transversal competences, ICT skills, learning to learn, working with information, teamwork skills, participation in society, moral values, etc.). It is stated that Ukraine is to continue the reforms in order to further harmonise its education with the European and world education developments.

### 1 Introduction

Since independence declaration in 1991, Ukraine has been implementing the reforms of education to integrate it into the European and world educational areas. Integration envisages synchronizing the key parameters of the national education with the international standards. Understanding the global trends in education is important in this context. Therefore, comparative studies are becoming relevant.

### 2 Literature review

The topic of the reforms in education is of great interest for the Ukrainian comparative education scholars in view of the reform of the national education. The following conclusions made by the comparative educators are important for our paper:

- Reforms of the end of the 20th – the beginning of the 21st century ... primarily aimed at achieving higher quality performance of educational systems. However, the most important conditions for the effective im-

plementation of the market-oriented reforms are: ensuring equal rights of citizens to quality education through thorough development of the legal framework for market-oriented reforms; ensuring a real opportunity for educational choice by eliminating the possibility of discrimination by educational providers; introduction of programs of positive discrimination of education in economic and socially neglected regions, in areas inhabited by ethnic minorities in order to increase the level of social justice in education [1].

- Education reforms in the EU countries are aimed at improving quality and at the democratization of education systems towards overcoming dualism and selectivity in it [2].
- A reform is to be conceptually, organizationally, financially secure and staffed established in combination with a positive attitude towards it. Sustainability of a reform is another characteristic of its efficiency – availability of a clear reform concept and the commitment of the authorities is an important requirement, so that with each change of power, new reforms do not begin from scratch [3].

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The comparative studies are the subject of analysis by many foreign scholars. In the context of globalization, much attention is paid to the research of global and regional trends in education. In particular, Mok emphasizes the actualization of the aspect of education quality in the East Asian countries/economies (China, Hong Kong, Japan, South Korea, Taiwan and Singapore) under the influence of globalization (marketization, privatization, governance changes, managerialism, economic rationalism and neo-liberalism) [4].

Revealing the nature of the reforms in education in Europe over 100 years, Garrouste writes about the constant search for a balance between equality (institutionalisation of pre-primary education programmes and increasing the pre-school institutions provision; extension of the duration of compulsory schooling; prioritization of minority access to education) and quality (introduction of the national monitoring systems and standardized assessment of students performance) [5].

Research on educational transformations at the cross-cultural and transnational levels focuses primarily on the economically developed countries of the world. Gruijters, Chan & Ermisch study the problem of educational opportunities in China in comparison with Germany, the Netherlands, UK and the USA. Studying the aspect of educational mobility according to a number of dimensions: (a) horizontal differentiation; (b) centralization of funding and resources; (c) standardization of curricula and tests; and (d) marketing the scholars underline the challenge of the growth of inequality in educational opportunities under globalization [6].

Thus, the findings of the Ukrainian and foreign comparative researchers testify that globalization exacerbates the challenges of social equality and, at the same time, actualizes the priority of economic efficiency. It directs educational reforms in the world to such key issues as equality and quality of education.

This paper is a logical continuation of the study of transformations in education under globalization, the results of which are presented by the authors in collaboration with other researchers of the Department of Comparative Education of the Institute of Pedagogy of NAES of Ukraine in the collective monograph "Transformation processes in school education in the countries of the European Union and in USA". Among other things, the authors concluded that transformations are characterized by multidimensionality today, i.e. in parallel with the curriculum reforms countries continue to extend the duration of schooling by raising the age of completion of compulsory education, or /and by reducing the age of enrolment of children in primary school [7].

### **3 Research methodology**

#### **3.1 Concepts underlying the research**

Based on the definitions provided by the dictionaries we understand the education reform as an improvement or change for the better in the education sector [8].

In the article, we understand globalization as the increased interconnectedness and interdependence of peoples and countries: the opening of international borders to increasingly fast flows of goods, services, finance, people and ideas; and the changes in institutions and policies at national and international levels that facilitate or promote such flows [9].

The objective of this paper is to conduct the comparative analysis of the secondary education reform priorities in Ukraine and in the countries of the world. To do this, the following research questions were asked:

1. What are the education development benchmarks at the global and European levels?
2. What are the common characteristics of the reforms that countries are implementing guided by global and European benchmarks?
3. Is secondary education reform in Ukraine harmonized with the reforms implementing worldwide?

Secondary education in our research corresponds to the ISCED 1, 2 and 3 levels of the International Standard Classification of Education [10].

The presentation of the material of the paper corresponds to the logic of research questions. At the beginning, an overview of the education strategic benchmarks of international organizations is made. Then the common directions of secondary education reform for all countries are analysed. The study concludes with an understanding of secondary education reform in Ukraine through the prism of reforms in foreign countries.

The following countries were selected for the comparison: the People's Republic of China, the Federal Republic of Germany, and the Republic of Poland. China was selected for the analysis as a leading country in the global space. The success of the secondary education reforms in China is reflected by the results of China in PISA 2018, in which students from Beijing, Shanghai, Jiangsu, Zhejiang (China) ranked No. 1 among other countries. These successes are becoming more significant given that half a century ago the share of illiterate people in China reached 80%. In less than 20 years, the country has made an incredible leap and travelled a path in which other countries have spent much more time. China is developing its national education under the influence of socialist ideas. Therefore, the experience of this country is of interest to Ukraine, which has a socialist past.

An analysis of education reforms in the EU is important for Ukraine in the context of its political course towards European integration. In view of this, the following European countries were selected for the analysis: Germany – as one of the leading countries in Europe and Poland – as the EU Member State, Ukraine's neighbour and a country with a common socialist past. Moreover, according to OECD Polish schoolchildren are the third best in Europe at maths and science, and the fourth best at reading comprehension, according to the PISA 2018 international rankings. The 2018 PISA study shows that German schoolchildren are performing at above-average levels [11].

In the collection of data the desk research (analysis of international/national documents available on the official web-sites) was used, with the focus on the secondary education sector. This manuscript targets the international and national institutional plans/strategies/movements that have attempted to bring or are bringing systemic change into educational practices (curriculum reforms and operational structures).

The documents of the international agencies – OECD, UNESCO – were used to study the processes and reforms in education taking place at the global level. The EU documents and the EURYDICE resource were used to get data/information on the education developments at the European level.

To understand the directions of school education reforms in the analysed countries, the official documents defining educational policy were studied. In particular, the Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010–2020) was analysed to understand the directions of school education reforms in China [12].

The document of the Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (Ständige Konferenz der Kultusminister der Länder, KMK) in the Federal Republic of Germany “The Education System in the Federal Republic of Germany 2016/2017” was a reference point for the analysis of the reforms in Germany [13].

The analysis of the reforms in Poland based on the Responsible Development Strategy for the period up to 2020 (including the perspective up to 2030) [14] and Lifelong Learning Perspective [15].

The analysis of the benchmarks of the reforms in Ukraine was conducted on the basis of the Laws of Ukraine “On Education”, “On Complete General Secondary Education”, the Government Concept “New Ukrainian School” [16–18].

A comparative method was used to understand the nature of the reforms in the selected countries.

### 3.2 Challenges and limitations of the research

There have been challenges due to the reason of different geographical location of the countries (Asia/Europe), their size and political systems. Besides, there were the following methodological difficulties: centralized vs decentralized education systems; various formats of the strategic documents. The limitations of the research include: the consideration of the directions of reforms at the level of strategic / legislative documents; the analysis of the quality education reform only from the standpoint of the formation of basic skills / key competencies.

## 4 Research results

### 4.1 Key objectives of education development at the global and the European levels

Traditionally, a state determined the directions of education development forming the vision of the model of the

citizens' training for professional activity and coexistence in the community. In the context of globalization transformation of the format of the national educational policies development takes place. International organizations – “agencies set up by two or more states to carry out projects and plans in common interest” (UN, UNESCO, OECD, World Bank, EU, and Council of Europe) – begin to play a key role [19].

The Incheon Declaration “Education 2030: Towards inclusive and equitable quality education and lifelong learning for all” is the global education agenda that has been articulated by UNESCO, UNICEF, the World Bank, UNFPA, UNDP, UN Women and UNHCR within the implementation of Sustainable Development Goal 4 of the worldwide movement for Education for All [20].

The document proclaims the overarching goal of the education development till 2030, i.e. “to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. The Declaration encourages countries and the global community to focus efforts on access, equity and inclusion, quality and learning outcomes, within a lifelong learning perspective.

The “Europe 2020 Strategy” sets an objective to raise the quality of education for the purpose of smart, sustainable and inclusive growth in order to improve Europe's competitiveness and productivity [21].

The Strategic Framework for European Cooperation in Education and Training “Education and Training 2020” shapes the education policies in its Member States. The Strategy pursues the following four objectives:

- Make lifelong learning and mobility a reality;
- Improve the quality and efficiency of education and training;
- Promote equity, social cohesion, and active citizenship;
- Enhance creativity and innovation, including entrepreneurship, at all levels of education and training [22].

It supports the achievement of the following benchmarks at the European level by 2020:

- at least 95% of children should participate in early childhood education;
- fewer than 15% of 15-year-olds should be under-skilled in reading, mathematics and science;
- the rate of early leavers from education and training aged 18-24 should be below 10%;
- at least 40% of people aged 30-34 should have completed some form of higher education;
- at least 15% of adults should participate in learning;
- at least 20% of higher education graduates and 6% of 18–34 year-olds with an initial vocational qualification should have spent some time studying or training abroad;
- the share of employed graduates (aged 20-34 with at least upper secondary education attainment and having left education 1–3 years ago) should be at least 82% [23].

**Table 1.** Priorities of the Incheon Declaration to be focused while achieving the overarching goal of the education development till 2030

Priority	Content
Access	Ensure access to and completion of quality education for all children and youth to at least 12 years of free, publicly funded, inclusive and equitable quality primary and secondary education, of which at least 9 years are compulsory, as well as access to quality education for out-of-school children and youth through a range of modalities. Ensure the provision of learning opportunities so that all youth and adults acquire functional literacy and numeracy and so as to foster their full participation as active citizens. The provision of at least 1 year of free and compulsory pre-primary education of good quality should also be encouraged.
Equity and inclusion	Ensure equity and inclusion in and through education and address all forms of exclusion and marginalization, disparity, vulnerability and inequality in education access, participation, retention and completion and in learning outcomes. As gender equality is another key feature of SDG4-Education 2030, this agenda pays particular attention to gender-based discrimination as well as to vulnerable groups, and to ensuring that no one is left behind.
Quality	An integral part of the right to education is ensuring that education is of sufficient quality to lead to relevant, equitable and effective learning outcomes at all levels and in all settings. Quality education necessitates, at a minimum, that learners develop foundational literacy and numeracy skills as building blocks for further learning, as well as higher-order skills. This requires relevant teaching and learning methods and content that meet the needs of all learners, taught by well-qualified, trained, adequately remunerated and motivated teachers, using appropriate pedagogical approaches and supported by appropriate information and communication technology (ICT), as well as the creation of safe, healthy, gender-responsive, inclusive and adequately resourced environments that facilitate learning.
Lifelong learning	The right to education begins at birth and continues throughout life; therefore, the concept of lifelong learning guides SDG4-Education 2030. To complement and supplement formal schooling, broad and flexible lifelong learning opportunities should be provided through non-formal pathways with adequate resources and mechanisms and through stimulating informal learning, including through use of ICT.

Thus, the international organizations form strategy for education development at the global / regional levels. As can be seen from the above documents, equal access and quality of education are the benchmarks for countries to develop their national education systems under globalization.

#### 4.2 Countries' common reforms initiatives under global and European benchmarks

The comparative analysis of the secondary education reform strategies in China, Germany, Poland and Ukraine made it possible to articulate the common initiatives under equal access and quality education benchmarks.

*Equal access to education.* In China, the goal of ensuring equal access to education is identified as a priority in the "National Plan for Medium- and Long-Term Education Reform and Development: 2020", issued in 2010 "Education should remain public welfare-oriented in nature, and equal access to it shall be safeguarded" [12].

It is expected to be achieved by:

- Popularizing nine-year compulsory education;
- Making a norm of senior middle school education, with a 90% gross enrolment rate;
- Providing equal services to urban and rural areas;
- Narrowing down are regional disparities in the access to education;

- Providing equal compulsory education opportunities for children of migrants;
- Guaranteeing disabled people's right to education.

In order to increase the secondary education coverage, the authorities replaced the junior secondary school entrance examination with a policy of mandatory enrolment based on the area of residence. In order to narrow the rural-urban gap and regional differences in education, target programs are being introduced to improve the infrastructure for schools in rural areas [24].

In Poland within the Acts "Law on School Education" and an Act "Legislation introducing the Act – Law on School Education" structural reform of the secondary education is being implemented since 2017. The reform envisages provision of all pupils of the appropriate ages a solid background of general education required for further personal development and the needs of contemporary labour market. The reform envisages transformation of the two-stage general full time compulsory education (6-year primary school + 3-year lower secondary school) into one stage general full time compulsory education (8-year single structure called primary school).

Besides, an obligatory one year of pre-primary education for 6-year-olds is introduced within the structural reform. It is done in order to master basic skills by children before they start school [25].

In terms of enhancing the equal access to education the reform foresees provision of textbooks free of charge



and extension of secondary programmes – both general and vocational – by one year (4-year general and 5-year technical upper-secondary school) [25].

Under decentralized education in Germany each Land pursues its education policy. Together, all 16 Länder and the Federal Government implement education policy aimed at further development of the national education. The KMK is responsible for coordination and harmonization of the education policy development at the national level [13].

Following the results demonstrated by the German students in PISA 2000, Germany is constantly focusing on equalizing access to education. In the context of modern reforms, special attention, as in all EU countries and many countries around the world, Germany focuses on the maximum coverage of children of appropriate age by the provisions of early childhood education and care (ECEC). The Childcare Funding Act guarantees providing financial support to the Länder to expand ECEC provision. With the Good Daycare Facilities Act (Gute-KiTa-Gesetz), the focus is shifting towards improving equity and quality. According to the OECD evidence participation in ECEC is high in Germany, i.e. at 95% [26].

Besides, the Federal Government in cooperation with the Länder focuses on the following measures:

- Strengthening the link between the ECEC sector and primary school with the aim of an early school entry;
- Support for the Länder in their investments in all-day schooling and care services;
- Integration of children and youths from migrant backgrounds into the school system.

The digitalization of education is an important modern German initiative in the context of equalization of learning opportunities. This reform is comprehensive. With the Digital Pact for Schools, Germany aims to improve the digital infrastructure of schools, develop pedagogical content to equip children with ICT skills, and improve teachers' competencies.

It is planned to allocate 5 billion euros from the federal budget for the introduction of digital technologies in German schools, at least 10% of the amount Länder are to spend on digital equipment in schools. While the Federal Government will provide better equipment with digital technology, the Länder will train teachers so that they can make good didactic use of digital media and impart digital skills.

In Ukraine, everyone's right to education is guaranteed by Article 53 of the Constitution of Ukraine [27].

At the same time in the document of the Ministry of Education and Science of Ukraine "New Ukrainian School: Conceptual Principles of Secondary School Reform" it is written about the existence of the problem of unequal access to education. Inequality is seen primarily in terms of equitable funding for providing quality education in urban and rural areas /state and private schools, etc. [18].

"The Concept of Implementation of the State Policy in the Field of Reforming General Secondary Education

"New Ukrainian School" for the period up to 2029", approved by the Order of the Cabinet of Ministers of Ukraine of December 14, 2016 No. 988-r, is aimed at solving this problem as well [28].

The concept provides:

- Improving the formula for calculating the education subvention to ensure equal access to quality education in different regions and settlements;
- Introducing equal access to budget funding for schools, regardless of ownership.

In addition, in order to equalize opportunities for each child, there are:

- To open 200-250 hub schools in rural areas;
- Create a national e-platform for e-courses and textbooks, develop e-textbooks, distance learning courses on curricula, distance learning system for teacher training.

Further development of equal access to education is made in the Law of Ukraine "On Complete General Secondary Education" [17].

Article 9 of the Law guarantees equal access to secondary education in terms of enrolment into primary school without a competition, territorial accessibility of general secondary education institutions; financing of educational institutions at the expense of the state and local budgets in sufficient amount; accessibility of educational institutions for people with special educational needs [17].

Thus, access reforms are a priority of educational policy in the analysed countries. The common benchmarks of these reforms include the creation of opportunities for maximum participation of school-age children in education, regardless of gender, race, social origin, place of residence. To this end, countries implement measures such as narrowing the rural-urban gap and regional differences in education (China, Ukraine); replacement of the junior secondary school entrance examination (China); support for the Länder in their investments in all-day schooling and care services (Germany); providing equal education opportunities for children of migrants (China) / integration of children and youths from migrant backgrounds into the school system (Germany); introduction of the obligatory one year of pre-primary education for 6-year-olds (Poland); provision of textbooks free of charge (Poland) / development of national e-platform for placement of electronic courses and textbooks (Ukraine).

*Quality of education.* "An integral part of right to education is ensuring that education is of sufficient quality to lead to relevant, equitable and effective learning outcomes at all levels and in all settings. Quality education necessitates, at a minimum, that learners develop foundational literacy and numeracy skills as building blocks for further learning, as well as higher-order skills" – is stated in the Incheon Declaration [20].

The EU has chosen a competency approach. "Fostering the development of competences is one of the aims of the vision towards a European Education Area that would be able to harness the full potential of education and culture as drivers for jobs, social fairness, active citizenship as

well as means to experience European identity in all its diversity”, stated in the Council Recommendation of 22 May 2018 on key competences for lifelong learning. The Recommendation provides a common European Reference Framework for the Member States identifying the following renewed list of eight key competences: literacy, multilingualism, numerical, scientific and engineering skills, digital and technology-based competences, interpersonal skills, and the ability to adopt new competences, active citizenship, entrepreneurship; cultural awareness and expression [29].

In order to develop skills / competencies, countries transform the curriculum, reform both the approaches to the design of the curriculum structure (introduce the results-oriented standards) and update its content.

Conceptual guidelines of the secondary education content in China were defined in the Ministry of Education Outline of the Reform of Basic Education Curriculum. The Outline defines the following objectives for curriculum reform:

- Change from a narrow perspective of knowledge transmission in classroom instruction to a perspective concerned with learning how to learn and developing positive attitudes.
- Change from a subject-centred curriculum structure to a balanced, integrated and selective curriculum structure to meet the diverse needs of schools and students.
- Change from partly out-of-date and extremely abstruse curriculum content to essential knowledge and skills in relation to students’ lifelong learning.
- Change from a passive-learning and rote-learning style to an active, problem-solving learning style to improve students’ overall abilities to process information, acquire knowledge, solve problems and learn cooperatively.
- Change the function of curriculum evaluation from narrowly summative assessment (e.g. examinations for the certificate of levels of achievement and for selection) to more formative purposes such as the promotion of student growth, teacher development and instructional improvement as additional functions.
- Change from centralised curriculum control to a joint effort between the central government, local authorities and schools to make the curriculum more relevant to local situations [30].

China’s Strategic Documents defining education development benchmarks as National Plan for Medium- and Long-Term Education Reform and Development: 2020 and Guidelines on Deepening the Education Reform and Teaching to Improve the Quality of Compulsory Education [31] further develop the concept of the curriculum defined in the Outline of the Reform of Basic Education Curriculum.

In Germany in 2003 and 2004 Kultusministerkonferenz (KMK) issued a set of educational standards for primary and early secondary education applicable to all of the country’s 16 states. In June 2015, the KMK issued the “Recommendations on the work in the primary

school” [32] aimed at mastering basic competences (reading and writing as well as mathematics) by primary school children. These competences are viewed as a basis for not only all other educational areas in the primary school but also for continuing education.

Strengthening language competences is another area of the reform of the secondary school. In 2019, the Standing Conference adopted a joint recommendation “Strengthening educational language skills in the German language” [33] that provides the Länder with an orientation framework. To this end, the Länder have agreed on 10 principles which form the basis for strengthening educational language competences in the German language.

The focus on digital skills is another priority of Germany’s educational policy in the area of competence education. In 2019, in order to intensify the acquisition of digital skills by young Germans, the Bundesrat approved the DigitalPact for Schools 2019–2024 [34]. Its overall goal is for pupils to be able to use a digital learning environment in all subjects and learning areas in order to acquire the necessary skills in the digital world.

The Responsible Development Strategy for the period up to 2020 (including the perspective up to 2030) of the Republic of Poland identified human and social capital as areas of major importance for the implementation of a new model of country development – a responsible and also socially and territorially sustainable development [14].

In the Strategy the special attention is paid at skills/competences/ qualifications of the Polish population. In particular, on:

- Transversal skills, which allow playing social and professional roles/functions in different contexts;
- Digital skills, which are indispensable for functioning in the contemporary world;
- Professional skills, as the shortage of skilled workers can prevent or hinder the development of vital sectors listed in the Strategy [35].

Specific directions of reforms in education and tools for their implementation are identified in the Lifelong Learning Perspective [15].

The document announced the introduction of a new curriculum format, i.e. curriculum based on learning outcomes [36].

The new core curriculum (laid down by the Regulation of the Minister of National Education of 14 February 2017) outlines the learning outcomes that should be achieved at the end of each stage of education. Instead of knowledge transferring the new curriculum focuses on the following key skills:

- Efficient communication in the Polish language and modern foreign languages;
- Efficient use of mathematical tools in everyday life, and mathematical thinking;
- Searching, sorting out, and critical analysis and use of information from various sources;
- Creative solving of problems in various areas while using purposefully ICT-based methods and tools, including programming;

- Solving problems, also with the use of mediation techniques;
- Team work and societal engagement;
- Active participation in the cultural life of the school, local community and country [36].

In Ukraine, the transformation of the content of education into competence bases is an important component of the current secondary education reform. The competence education is substantiated in the “New Ukrainian school. Conceptual Principles of Secondary School Reform”. It states that the “formula of a new school consists, among other things, of a new content of education, which is based on the formation of competencies necessary for successful self-realization in society” [18].

The Law of Ukraine “On Education” approved the following list of key competencies that school graduates should master: fluency in the state language; ability to communicate in mother tongue (in case it differs from the state language) and foreign languages; mathematical competence; competence in the area of natural sciences, engineering and technology; innovation; ecological competence; information and communication competence; lifelong learning; civic and social competences related to the ideas of democracy, justice, equality, human rights, well-being and a healthy lifestyle, with the awareness of equal rights and opportunities; entrepreneurship and financial literacy; cultural competence [16].

Thus, the formation of key competencies / basic skills of young citizens is a task of secondary education in all countries. To do this, they implement a comprehensive content reform. It involves the transformation of its philosophy – from the transfer of knowledge to the formation of students’ vital skills (interdisciplinary, transversal competences, ICT skills, learning to learn, working with information, teamwork skills, participation in society, moral values, etc.). It is obvious that there are national differences in the implementation of such a reform, i.e. from focusing on the formation of the full range of skills / competencies to the prioritization of some of them, primarily, functional literacy, digital skills.

## 5 Discussion

The study confirms the methodological proposition that globalization changes the very format of educational policy development – the national level is complemented by the supranational level in the face of international organizations. Verger, Novelli and Altinyelken writes that globalization revitalizes the role of international agencies in making educational policy. Among them, international governmental organizations with an explicit or implicit education mandate, such as the World Bank, OECD or UNESCO, stand out. . . International players have an increasing capacity to settle education agendas and define the priorities of countries concerning education reform processes, but also to impose certain policies via funding mechanisms and aid conditionality [37].

The influence of the Strategic Framework for European Cooperation in Education and Training “Education

and Training 2020” is obvious on the example of Germany and Poland. Under EU legislation, secondary education is the prerogative of the Member States. At the same time, with the introduction of the Open Method of Coordination (OMC) (extended to education by the Lisbon Treaty in 2000) there is a gradual harmonization of education in the Member States. Humburg states that the OMC does not foresee the production of binding rules and does not force Member States to implement any measures, however, the European Commission possesses a fairly high degree of informal agenda setting power with regard to shaping the instruments of the OMC, namely common objectives, guidelines and benchmarks [38].

A comparative analysis of education reforms directions in the analysed countries showed that the countries takes into account the key benchmarks of the international organizations, i.e. ensuring equal access to education and improving its quality.

Summarizing the positions of international organizations and the experience of countries in implementing the concept of equality in education, Levin writes about two axes or dimensions around equity. One dimension deals with whether overall levels of provision are sufficient and of the right kind. The second dimension of equity concerns the participation, primarily of particular groups (ethnic minorities, disadvantaged segments of a society, women) [39].

It is obvious that the concept of “equality in education” is implemented by countries in the context of national priorities. Hippe, Araújo and Dinis da Costa, analysing the situation with equal access to education on the example of Europe, emphasize that “one size fits all” policies do not appropriately address the needs of diverse learners in different countries. Policies have to be tailored to specific contexts and populations. Just importing policies from other countries without further analysis may not work – the particular local contexts and stakeholders have always to be taken into account [40].

Differences in the implementation of the equal access to education reform are observed not only between countries, but also within a country. The example of Germany is obvious, where the key agents of reform are the Länder. In particular, the Federal Childcare Funding Act guarantees financial support to the Länder to expand ECEC provision. At the same time, each Land implements the Act provisions differently. Several federal states (Berlin, Brandenburg, Mecklenburg-West Pomerania, Lower Saxony and Rhineland-Palatinate) have entirely or partly abolished ECEC tuition fees; some Länder have established one-year pre-school programmes, under various names, for children who have reached compulsory schooling age, but whose level of development does not yet allow them to cope with the challenges of primary school.

The common characteristics of equality reform in the analysed countries include: overall accessibility and affordability of ECEC; universalized secondary education; low level of school failure and dropout; avoiding early tracking; equal opportunities for urban and rural areas and for men and women; special attention for target groups (persons with special needs, migrants, etc.).

The concept of quality is no less multidimensional. At the same time, key skills are considered by the world community as a key indicator of quality education. For example, the UNESCO concept of quality education focuses on literacy, numeracy and life skills, and is linked directly to such critical components as teachers, content, methodologies, curriculum, examination systems, policy, planning and management and administration [41]. The level of functional literacy by 15-year-old students (science, reading and mathematics) measured by PISA determines the level of quality of the education system.

Given the topicality of the education quality and of key skills the countries implement content reform, which is characterized by the shift to the learning outcomes curriculum. There is an introduction of integrated curriculum standards, composed of subject knowledge, basic skills (mother tongue (or language of instruction), mathematics and science), transversal competences, such as citizenship and entrepreneurship, ICT/digital skills, personal development skills, social skills, moral values.

## 6 Conclusions

Answering the research question on the harmonization of educational reforms in Ukraine at the level of secondary education with the reforms in the countries of the world, we will give an affirmative answer. It is obvious that the updated legislation directs Ukrainian education to synchronization with global and European key benchmarks.

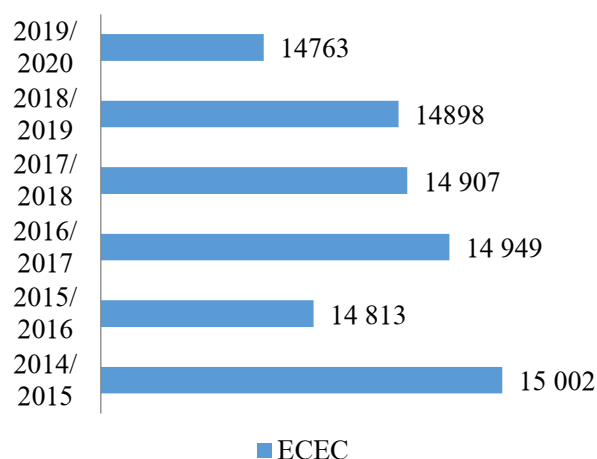
The Laws of Ukraine “On Education” and “On Complete General Secondary Education” introduce the following global benchmarks for the development of education:

- Lifelong and life-wide learning/education – formal, non-formal, informal education and various forms of its acquisition: institutional (full-time, part-time, distance, network); individual (external, family) (home), pedagogical patronage, in the workplace (at work) [16];
- Equal access to education – enrolment in primary school without a competition; territorial accessibility of general secondary education; financing of educational institutions at the expense of state and local budgets in the amount sufficient to meet state standards; compliance with the requirements of the legislation on the accessibility of educational institutions for persons with special educational needs;
- The quality of general secondary education, which is interpreted as the conformity of learning outcomes obtained by a student at the appropriate levels of general secondary education, to the state standards. State standards of secondary education determine the total amount of study load for secondary education students, the requirements for competencies to master at the appropriate level of general secondary education [17].

The results of the 2018 monitoring of the Ministry of Education and Science of Ukraine on the implementation of the reform show positive trends in the context of ensuring equal access to education:

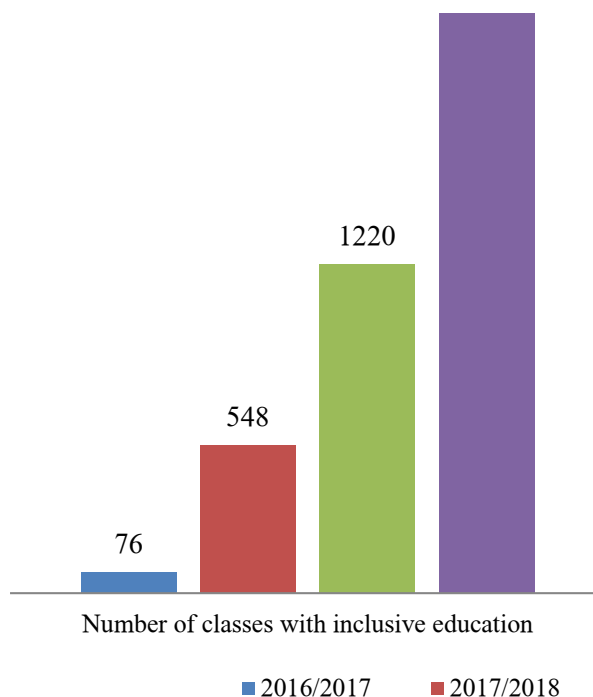
- Optimization of the network of educational institutions;

- Expansion of the ECEC provisions (figure 1);



**Figure 1.** Dynamics in changes of the total number of ECEC provisions subordinated to the Ministry of Education and Science of Ukraine (2014 / 2015–2019 / 2020), [42].

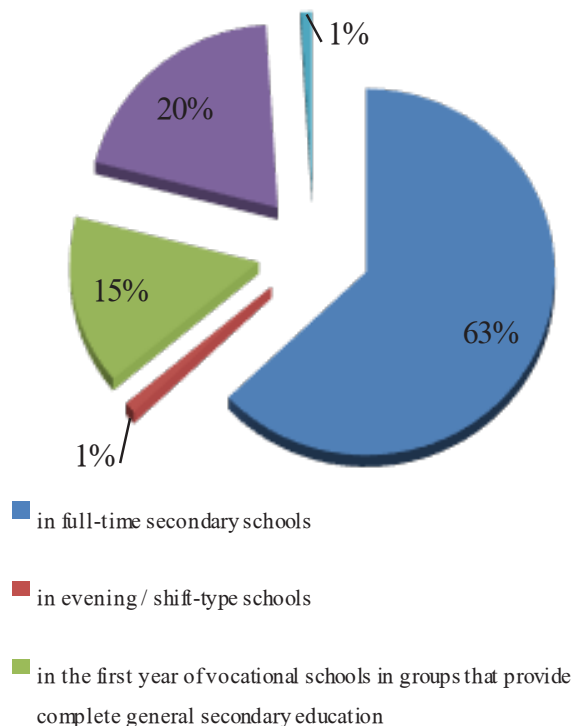
- Increase of the number of hub schools. Support schools first appeared in Ukraine in September 2016 in the number of 137 in order to equalize children’s equal access to quality education in rural areas. As of June 1, 2018, there were 530 hub schools, i.e., their number increased in two years by 280%;
- Increase in the number of classes with inclusive education for the period from September 2016 to June 2018 more than 7 times (figure 2);



**Figure 2.** Dynamics in the number of classes with inclusive education, [42].



- in 2017/2018, almost 60% of students continued their education in full-time upper secondary schools, almost 2% – in evening upper secondary schools, 15.8% in VET institutions; almost every fourth graduate of the 9th grade of lower secondary school entered higher education institution (figure 3).



**Figure 3.** Further education of 9th grade graduates, [42].

There is also a transformation of secondary education into competence one. In particular, the reform of primary school as part of the of secondary education reform started. On the basis of the Law of Ukraine “On Education” the State Standard of Primary General Education was developed and approved [43].

Typical Educational Programmes of Primary Education (for 1-2 and 3-4 grades of the New Ukrainian school) are also competence-oriented [44].

These documents declare the comprehensive development of a child, of his/her talents, abilities, competencies and cross-cutting skills that ensure his/her readiness to live in a democratic and information society, to continue his/her education in secondary school as the aim of primary education.

At the same time, we agree with Sahlberg, who writes about the existence of a number of challenges in the process of implementing the proclaimed reforms. The lack of the ability to modify change strategies by continuously shaping and reshaping intentions, ideas and actions is named him as a challenge [45].

The list of key competencies approved by the Law of Ukraine “On Education” in 2017 is an example of the need for such a modification. The list is synchronized with the 2006 European Reference Framework of Key Competencies for Lifelong Learning. However, the European Com-

mission approved an updated list of key competencies responding to the new realities of Europe and the world in 2008 [29].

In our opinion, it is no less important for Ukraine to take into account the latest developments of the EU, which already ensure the implementation of the competence approach in secondary education the introduction of appropriate competence-oriented learning approaches and environments [46].

Therefore, Ukraine is to continue the reforms in order to further harmonise its education with the European and world education developments. The following recommendations look valid based on the analysis of reformist innovations in China, Germany and Poland: adherence to the key reform initiatives (ensuring equal access and quality of education), ensuring a balance between these key initiatives (obvious here is the importance of equal educational opportunities, especially under COVID-19 pandemic and improving both the quality of educational services and the quality of educational outcomes (knowledge and key competencies of graduates of secondary education), the continuity of these initiatives in case of the change of the Government, the duration of the announced reform initiatives and appropriate financial support.

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