

Participation in horizon 2020: impact on transformation of higher education in ukraine

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Abstract: It is determined that changing social, economic and political priorities under current conditions necessitates the establishment of a new education management system, the change of traditional mechanisms (caused by centralized management) and the establishment of new mechanisms of state influence with their re-orientation from implementing control functions to regulation ones. This is possible on the basis of the systemic transition from principles of industrial policy to principles of creating an educational infrastructure of social transformation. It is established that the real autonomy for universities, the formulation of their own development strategy and competitiveness, the use of international standards, the creation of high-quality educational programs, the implementation of a quality assessment system and the development of an effective economic policy of universities should be provided. It is proposed to consider the international cooperation as a basic and primary factor in optimizing the state regulation of educational sphere.

Keywords: government regulation, mechanisms, higher education, cooperation.

General problem definition and its relationship to important scientific and practical tasks. As practice shows, the current development is characterized by changes covering all aspects of social life and a man's life in the society. The winners are those who view these changes as global challenges and try to expand a segment of possibilities through their implementation. However, otherwise, the changes will result in decreasing the possibilities. This will automatically lead to lowering country's development indicators in today's geopolitical and geo-economic context. Today we talk not only about delaying reforms, but also about matching the development pace and models in the 21st century.

Changing social, economic and political priorities under current conditions necessitates the establishment of a new education management system, the change of traditional mechanisms (caused by centralized management) and the establishment of new mechanisms of state influence with their re-orientation from implementing control functions to regulation ones. The qualitative transformation of higher education requires developing a modern state policy in education, which will be based on the use of modern tools and the implementation of effective methods and ways of state control of higher education. This causes the urgency of the research.

Analysis of recent research studies and publications. The analysis of research studies in the field of education and science as well as mechanisms of its implementation along with the state regulation have been studied in the works of such scientists as A.Alyokhin, D.Bakhrakh, T.Boretska, A.Dyomin, M.Zhuk, S.Knyazev, Y.Starilov and Y.Tikhomirov. In view of their professional activities, senior officials and specialists of the education system V.Zhurakovsky, V.Kinelyov, V.Filippov, O.Smolin and others also devoted their works to this problem. Without ignoring the achievements of these scientists, we can note that it is necessary to determine and explain the ways of establishing a new education management system, changing traditional mechanisms (caused by centralized management) and establishing new mechanisms of state influence with their re-orientation from implementing control functions to regulation ones both in practical terms and taking into account calls of the times. It is proposed to consider the international coopera-

tion as a basic and primary factor in optimizing the state regulation of educational sphere. All this is the purpose of our article.

Presentation of basic materials. The state regulation of higher education transformation is a set of state measures aimed at achieving the goals the government bodies established by universities. In other words, the state regulation can be considered as a tool to implement the national education policy through regulatory activities, forecasting, stimulation and control of higher education institutions.

The main directions of state regulation of transformation in higher education are increasing the access to higher education, improving the quality and effectiveness of high university degree specialist resources, improving and developing integration processes in higher education. The content and focus of the state policy in the field of higher education under current conditions reflect the following main tasks on reforming the educational system: moving to a dynamic stage by stage system of training specialists that allows to meet the needs of individuals in obtaining certain educational and qualification level according to their abilities and provide the mobility on the labor market; creating a system of higher educational institutions, which will satisfy the interests and needs of individuals and the society as a whole in terms of its forms, programmes, study periods and sources of funding; raising the educational and cultural level of society, creating conditions for extended studies; bringing the national higher education in line with a global level of higher education and its integration in the international scientific and educational space. In this context, main mechanisms of the state regulation of higher education transformation are developing a national system of education quality assessment, creating independent qualification centers, including the ones for proficiency testing in the European system of standards; stimulating the creation of independent national higher education institutions; implementing information and communication technologies in the educational process; bringing qualification characteristics, standards and study programmes into compliance with education and qualification requirements of jobs; attracting employers to participate in developing study programmes and coordinating educational and professional

standards with them; implementing on-the-job training programmes nationwide; increasing the funding of higher education, submitting state training requests on the basis of predicted needs of the economy; dividing academic and practical study programmes and developing professionally oriented higher education [1, p.27].

The effective education management allows to respond to market demands, including the labor market, for certain categories of workers in due time, and hence, the demand for educational services and the formation of incoming cash flows as well as for providing such important operations (regulated by state) as licensing specialty occupations, setting quotas for training of specialists, certification of specialties and the university in general.

The system of state regulation of educational activities has a very complicated structure and should be based on principles of partnership. It covers not only measures (mechanisms) to regulate the specific processes, but also the tools that is the ways of regulation used by specific areas (components) of the economic policy. The entire regulatory system is aimed at implementing the vital functions of the society that the state undertakes. Therefore, the system of state regulation of educational activities should be built in a hierarchical manner, when first the system functions are established, then the directions of economic policy aimed at implementing these functions are determined, after that, the instruments to implement this policy are selected and, finally, the measures to regulate specific processes are developed [2].

The conditions for educational activities are regulated through government orders, the tax system, financial assistance in the form of grants, subsidies and subventions to develop promising areas of education; a balanced credit policy; establishing national regulations and standards; licensing; measures to regulate state funding volumes, including market leverages. The implementation of market leverages for state regulation will help to revive educational activities in general, and move to a period of intense accumulation of intellectual capital.

It is possible to achieve the effective state regulation by using the mechanisms of different functional purposes: economic, motivational, organizational, political, legal, innovation, social and others.

The economic mechanisms should be implemented through clear reallocation of competencies between central and regional authorities for the benefit of regions and through autonomous management of educational institutions.

As for improving the current financial mechanism of state regulation of higher education transformation for today, we believe that its main task is to diversify and improve forms and methods of financing the higher education institutions by attracting investments and long-term lending into the activities of institutions and providing the heads of universities in state and municipal property with the right to reallocate public funds for the needs of these institutions autonomously.

In order to improve social mechanisms of state regulation of higher education transformation, it is advisable to create a Higher Education Support Fund, the activities of which will include paying tuitions of students at universities through mechanisms of educational insurance of individuals. The creation of this Fund will allow future

university entrants to make necessary insurance payments, which will be used for paying tuitions when applying for universities on a contractual basis, via insurance companies. This mechanism will reduce the financial burden for families in the future, when they will need to pay for educational services provided, and create the transparency and predictability of financial resources coming in higher education.

The successful implementation of motivational mechanisms of state regulation of higher education transformation is possible if it will:

1) be built according to the state policy in the field of education to meet the needs of various population groups along with regional, national and demographic characteristics;

2) take into account special features of each specific subject to management.

Problems of developing, improving the existing ones and introducing effective mechanisms of education management remain relevant. This is not about some changes in the management process, but about the significant improvement of the current management system as a state and social, fundamentally new if scientifically reasoned, resource-secured, efficient and effective set of institutional education management mechanisms to achieve the goals established by the national education policy in Ukraine.

Areas of improving a comprehensive mechanism of state regulation of higher education transformation are drafting a development concept for marketing of educational services; renewing the staffing structure in science and education and creating additional conditions to attract young talents in the field of scientific and educational technologies; raising wages of education and science employees along with social protection of scientists and prestige of scientific and educational activities. The low labor price in the national economy can not be an important indicator of the competitiveness of specialists, especially in the long term, the reduced intellectual emigration and the creation of necessary preconditions for returning scientists and experts, who have moved abroad. A conceptual approach to developing the comprehensive mechanism of state regulation of higher education transformation is a set of interrelated mechanisms of state regulation of higher education transformation, which is based on the model of public-private cooperation between government bodies, higher education institutions, businesses and the public that makes it possible to adapt the higher education system and provide its entry into the European and world educational spaces.

Ukraine's participation in the European movement of unification of the EU educational system should be considered not as a manifestation of political will, but as an objective process of improving the national educational system on the basis of summarizing the experience of highly-organized and highly-developed countries, which form the main body of this alliance. A special feature of this stage is the transformation of the institution of education in accordance with market transformations of the entire system of social and economic relations and the adaptation of the education system to market conditions as well as with the objective changes that occur globally due to the need to bring the education into compliance

with the requirements of post-industrial society.

Actually, this is a real prospect of transitive changes, which cover all areas of our society, for Ukraine. However, at the same time, such a component of the European development as a focus of priorities of main European programs is poorly analyzed. Ukraine has not come to a level of the third industrial revolution yet, while the leading countries have already implemented the fourth one. If our country chooses the priority of development towards the EU, then accordingly, the EU development goals should be reflected in the development of the Ukrainian society. Let us recall the EU development goals 2020. Today, they are dedicated for 2020, in other words, they are the roadmaps of priority and step by step changes [3].

These are three basic programmes of European development – Europe 2020 (adopted in 2010), the Bologna Process 2010-2020 (adopted in 2009) and Horizons 2020 (adopted in 2014). They serve as comprehensive integrated programmes that complement each other.

Innovations are a development priority of the Europe 2020 programmes. The goal of the second stage of the Bologna process for 2010-2020 is as follows: “In the next decade, the European higher education should make a significant contribution to building highly creative and innovative Europe of knowledge” [4]. These programmes are complemented with the HORIZON 2020 scientific programme [5].

On January 30, 2011, the European Commission officially announced the creation of a new programme called Horizon 2020 (H2020) designed to combine funding for researches and innovations in the EU. The programme will be implemented in the period from 2014 to 2020. Horizon 2020 is the eighth EU Framework Programme for Research and Innovation. The first framework programme was launched in 1984 with a limited budget in 3.75 billion euros for five years [6].

During the implementation of the Seventh Framework Programme (2007-2013), Ukraine gained a leading position among the Eastern Partnership countries and was among the top ten most active partner countries just being below the United States, Canada and BRICS countries (Brazil, Russia, India, China and South Africa). Research institutions and universities of Ukraine participated in 126 projects of the Seventh Framework Programme with the EC financing in the amount of nearly 26.5 million euros [7].

The Horizon 2020 programme launched in January 2014 is the largest transnational research and innovation

programme. The budget of the programme (nearly 80 billion euros) makes it one of the most expensive programmes of state support for science in the world.

It should be noted that 24 projects involving Ukrainian institutions won and started to receive funding already in 2014. Ukraine was among the 10 most active participants, among the then third countries [8].

On March 20, 2015, the Agreement between Ukraine and the European Union on the participation of Ukraine in the EU Framework Programme for Research and Innovation “Horizon 2020”, which differs from the Seventh Framework Programme in some aspects that should be considered when preparing project proposals, was signed [9].

According to the agreements reached, Ukraine received an unprecedented high discount of 95% on the financial contribution resulting in 35 579 782.09 euros during the next 2015-2020 [10].

The priorities of the Horizon 2020 programme are to support fundamental researches for their further market promotion, improve the competitiveness of production, nanotechnologies, new material sciences, biotechnologies and the space industry as well as find responses to the most pressing social challenges in health, environment and demography [11]. The content of priority areas is shown in Fig.1.

The Horizon 2020 programme is interdisciplinary and has several new features: 1) a clearer focus on the strategic approach to planning researches and innovations along with developing joint actions and management methods that meet the regulatory framework while going beyond traditional sectoral development programs; 2) significant simplification of funding by simplifying the structure of the programme, developing a single set of rules, reducing time-consuming bureaucracy procedures through a simple scheme of expense recoveries, the introduction of an “unified approach” for participants, rarer audits and inspections with a common goal – to reduce the average time for providing grants to 100 days; 3) integration of researches and innovations by ensuring smooth and agreed funding starting from an idea to entering the market; 4) creation of better opportunities for new participants and young promising scientists to promote their ideas and obtain funding; 5) increased support for innovative activities and the activity, which is close to the market, that leads to direct economic incentives; 6) a focus on developing business opportunities with emphasis on “social challenges” [12].

Table 1. The content of priority areas of the Horizon 2020 programme

EXCELLENT SCIENCE	INDUSTRIAL LEADERSHIP	SOCIAL CHALLENGES
European Research Council	Leadership in enabling and industrial technologies (LEIT) – ICT, KET’s, space	Health and wellbeing*
Future and emerging technologies (FET)	Access to risk finance	Food security*
Marie Skłodowska-Curie Action (MSCA)	Innovations in SMEs	Transport*
Research infrastructures		Energy*
		Society
		Security
		Climate impact*
Improving quality and increasing a circle of participants Science “with” and “for” Society*		

Bringing the Ukraine’s education level to the education level of developed countries is possible only through a complete reform of its conceptual, structural and organi-

zational principles [2]. This is possible just in case of moving from industrial policy principles to principles of creating the educational infrastructure of social transfor-

mation. In other words, it is necessary to provide a real autonomy of universities for developing their own development strategies, the competitiveness, a wide and flexible set of educational services, public access to information about higher education and the educational market, the use of international standards, the creation of education plans, the introduction of a quality assessment system, the objective record keeping, the development of effective economic policy at the local level represented by universities. Therefore, the development of a new paradigm and new conceptual approaches to higher education along with the international cooperation is a basic and priority factor of optimizing the state regulation in education.

Conclusions. To improve the situation in Ukraine, the large-scale reforming process has been started, taking in account “international standards” of education. To implement the international standards of higher education, unified criteria for assessment the quality of educational

services are developed, a system of educational loans is introduced, the transition to a two-level system of higher education and the mutual recognition of education certificates are implemented. The further reform of higher education in Ukraine provides for: broadening and solving the tasks and improving the higher education system; regulating a number and specialization of educational institutions; ensuring structural changes and the development of a private sector of higher education; introducing management innovations and new technologies; ensuring the autonomy of higher education within the state administration; imposing higher professional requirements for teachers; providing conditions for lifelong studies; enhancing creative relations with foreign higher education institutions; integrating into the European educational space; increasing scientific and constructive interaction between universities and business entities; introducing clear requirements and criteria to improve the quality and efficiency of the higher education system.

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