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Strategic Directions of the Development of the Higher Education of Ukraine in the Conditions of the Innovative Transformations



Summary

In the scientific article the government and terms of the development of the higher education of Ukraine are considered. The problems of the development of the higher education are defined in the conditions of the passing of the economy to the model of the innovative development. The role of the higher education is shown in the process of the innovative modernization.

Statement of the problem and its relevance. In the conditions of the transition of the economy on the innovative model of the development significantly increases the role and value of the higher education, which should provide the labour market with a sufficient number of the highly qualified specialists who are able to act creatively, professionally, for solving the problems of the production technology of the world level.

The lack of a unified strategy for the formation and implementation of the government innovation policy leads to inhibition of the innovative potential of the higher educational institutions. On the predominantly extensive character of innovative processes in higher education suggests that the educational process relies on a pre-

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dominantly scientific and technical advances and equipment have been mastered in previous years. This type of innovative development is fairly narrow limits and makes it impossible to maintain the competitiveness of educational institutions for a long time.

Consequently, much actualizarea research questions on issues of the strategic development of the higher education, ensuring the real integration of the higher education system in the process of the rational economic transformation. Also, the actual task of today is development and introduction in practice of the public administration realistic mechanisms to support high performance innovative activities of higher educational institutions.

The analysis of the scientific works devoted to the solution of the problem. On chosen issues published several comprehensive research papers. From the analysis of these works it follows that in our times sociologists speak about the information society, economists have analyzed the innovation economy, teachers talking about Znanie society (or a society that learns). Knowledge, in essence, become a fundamentally unfinished technology shaping the future, is actually closing on itself as an economic and social system of post-industrial society. Moreover, in developed countries it is becoming more important as an economic product has grown, new forms of activities that is based on trade knowledge products (licensing, consulting, engineering, etc.).

However, in the current environment, when forming the new technological mode, and the role of countries in the global division of labor is changing rapidly, further research is needed on strategic guidelines for the development of higher education as part of the innovative economy.

The purpose of this article is to present the results of studies on certain issues of harmonization of higher education development in the conditions of formation of innovative economy.

Presentation of the basic material. The graduate school will train professionals who can work for the future only if the radical modernization of the content and learning technologies. This requires the development of new curricula which would be integrated when self-discipline from the curriculum of other specialties, forming teaching units, which should ensure at the same time deep and fundamental training, and apprenticeship that focuses on the study of innovation and technology disciplines.¹

Training and research in new fields of knowledge require integration of the content in a number of disciplines previously considered independent and unrelated. The outcome includes interdisciplinary and multidisciplinary training programs. New forms of knowledge generation and transfer require the reconfiguration of university departments and faculties, in addition to the reorganization of scientific research and training, focused on solving complex interdisciplinary problems and the development of science-intensive technologies.²

In some countries, an increasingly popular corporate educational form includes a combination of part-time studies and work. In some fields this is also implemented in the Ukraine. In this respect a promising idea is to set up new types of educational institutions in the form of university complexes at various higher educational insti-

tutions of various types and levels. Scientific research institutes and enterprises can also be linked to them, along with consortia, associations and the like. Proposals were submitted for the legislative consolidation of this status to the team drafting the act “On higher education” of the Ukraine. The rampant “universities” that led to the loss of traditions were powerful industry-specialized institutes and academies.

During the transition of higher education from elite to mass (since 2000, higher educational institutions across the world further have added 51 million students), it is logical to have a variety of university types and curricula (in particular, to separate vocational and academic education), so we need to develop standards and criteria to ensure high quality and efficiency in each type of higher educational institutions. Induction to these types of programs is important, and the university should have the right to choose the program types according to the needs of the regional economy, applicants’ demand and the ability to provide high-quality training (i.e. it is not necessary to undertake both programs).

In the course of transition to a two-level (“bachelor – master”) system, formalism should be avoided, as it deteriorates the introduction of more flexible educational programs focused for student and for the labour market, which needs the following:

- undertaking the re-classification of training areas;
- development of a new methodological basis of government standards for extended types of training bachelors, with the option to introduce programs more focused on academic training with labour market orders focused on practice;
- employers should have more opportunities to open new specialties and form the content of training to reduce the graduate’s adaptation period to practical work;
- elaboration of new criteria for licensing and the accreditation of master and PhD programs.

It would also be interesting to consider the Russian solution to the problem of mass training and the employment of bachelors. The aim of the reform is to develop programs in most schools for securing the employment of masses of bachelors as specific personnel and under research contracts with private businesses and at regional authorities. Meanwhile, the very high number of higher educational institutions is another problem waiting for a solution, so some universities can get services in masses of secondary education.

A new concept of pre-university education needs to be elaborated to provide general education that includes and aligns the humanities, natural and technical sciences, and thus closes the gap between general and vocational education. The content and objectives of regular school education and the subsequent levels require new types of correlation. Unfortunately, in the Ukraine we have not yet achieved proper alignment in reforming secondary and tertiary schools. Achieving this is the duty of universities, pedagogical training schools, and more specifically, the scientific and pedagogical staffs, who are supposed to act in accordance with the importance and complexity of these tasks.³

Efficiency must be improved in higher education through a systemic reform, in particular, through optimizing the network of higher educational institutions. In the

Ukraine, specialists are currently engaged in more than 850 higher educational institutions at all accreditation levels and in various forms of ownership, subordinated to 26 ministries and departments, 10 of which report to a single institution. The departmental subordination of educational institutions often prevents their development, the elaboration of unified approaches to the organization of educational activities, and this is why a new paradigm of interaction between educational institutions needs to be set up with both ministries, employers, and with the public higher educational system as a whole. An analysis of foreign experiences shows that in countries with roughly identical demographic indicators, the average number of students at a university is 22, 23 and 14 thousand in Spain, Italy and Greece, respectively (with only 3 thousand in the Ukraine).

The approaches and criteria used in making investment decisions to develop higher educational establishments from budget funds must also be changed. The decision-makers of public finances should alter the external criteria of evaluating the quality of activity at educational institutions. Indeed, the prevailing principle of “more students – more money” has an impact on the quality of education. In this regard, it is advisable to develop a comprehensive set of criteria for assessing the quality of the educational process, including the evaluation of the content and learning technologies used during the training; the assessment of knowledge per each student; requirements for the organization and monitoring of the educational process; modern requirements for the competence of teachers and students; and a clear and transparent procedure of self-evaluation in educational institutions as a basis for quality assurance system.⁴

In addition to short-term economic success, sufficient investment in the development of higher education would result in laying the foundations of sustainable long-term development trends in the national economy with subsequent integration into the European space of higher education.

V. Lugovyi, an academician of NAPS of the Ukraine said that the country’s entry into the European space of higher education and research was extremely important as it was a step towards real integration into the global community.⁵

The process of European integration allows the creation of a European educational and scientific space through the development of uniform criteria and standards in education and science to recognize higher educational training specialists to facilitate cooperation between higher educational institutions in Europe, and the mobility of teaching staff and students.

In the framework of the Bologna process established by the European higher educational area (hereinafter – EHEA), the geographical and institutional norms of the European Cultural Convention were determined. The Bologna process requires structural reforms in European national higher educational systems, change in the educational programs and institutional transformation in the higher educational institutions of Europe. However, it does not imply the unification of educational content. On the contrary, in many documents of the Bologna process it is noted that each participating country needs to preserve the national palette, identity and herit-

age in the content of education and training of specialists with higher education, and to continue the introduction of innovative and progressive approaches to higher education inherent in the EHEA. In every single stage, the Bologna process was declared voluntary, based on the values of European education and culture, without excluding the national peculiarities of the individual educational systems of the different European countries; and being a multiple, flexible, open and progressive system. The ultimate goal of the process is to meet the appropriate social, staffing and production-related requirements of quality higher education that can train competitive specialist who are able to easily adapt to the economic space in European countries. The development strategy used to adjust Ukrainian higher education to the Bologna process requires the creation of infrastructure that enables higher educational institutions (universities, colleges, etc.) to maximize their individual potential to meet the high requirements of the European knowledge system and to adapt the higher education system of the Ukraine to the principles, norms, standards and basic provisions of the European higher educational area.⁶

Given the above, the purpose of government policy regarding higher education should provide incentives in scientific, technical and innovative activity in higher educational institutions.

It must be taken into account that the ultimate goal of the government's innovation policy is to improve the quality of life for the wider population and to provide uniform social standards on the whole territory of the Ukraine. The quality of life is the result of a number of objective and subjective factors, both national and regional in nature. It is measured by the quantity and quality of goods that can be bought for the income earned. We are talking, primarily, about the necessary social benefits, which are included in the so-called minimum consumer basket.

The basis of the support strategy to innovative development in higher education should accelerate development of modern educational technologies, and industries and regional clusters (clusters, technology parks and technological polices), where such technologies are developed.

One of these strategic directions is a rapid development of information technology. The higher education sector of the Ukraine has significant potential for the development and sales of software and can act according to the example of Ireland, which has attracted billion-euro investments. Such a breakthrough requires a combination of efforts from the government, higher educational institutions and IT companies in the Ukraine. Software development should find a way out of its current dependence on market monopolies and should rather compete with them.

Another strategic direction is the conduct of institutions of the higher education research on designing high-tech consumer goods. In this field the potential lies in engineering products: the manufacture of household appliances, buses, automobiles, agricultural machinery, electronic and communications equipment. Support must be given to high-technology industries like aircraft engineering (the Ukraine is among the five countries with new technologies in this field) and shipbuilding (the

Ukraine builds various types of ships including tankers, increasingly in demand for European carriers). In the chemical and petrochemical industries there are prospects for increasing production of competitive mineral fertilizers and chemical plant protection products, high-performance coagulants and flocculants used for the purification of natural and waste waters, synthetic cord, polymers and products, tapes and x-ray film on a Mylar-based, household chemicals, tyres and rubber products, in particular flame-resistant conveyor belts.⁷

In the Ukrainian Act on a Comprehensive government Program for the Development of High Technologies, approved on April 9, 2004, the task varies by technological paradigm. Decree 5 on Technology and Decree 6 on Industry require an increase in production to 12 and 3 percent, respectively, in 2013, while the share of high-tech products in exports must be increased to 20%. In any case, innovative transformation must be based on the creation of opportunities in the higher education sector (“sciences”).

Investment in higher education should be channelled into the development of information and communication technologies, which improve the educational process, the availability and efficiency of education, and allow the preparation of young generations for life in the information society, defined in a number of policy documents as one of the priorities of higher education development.⁸ Investments can provide further development in information and communication technologies in higher education in the following fields:

- support to the gradual computerization of the system of higher education aimed at meeting the educational information and communication needs of students and other participants of the educational process;
- introduction of the distance learning with application in the educational process and librarianship information and communication technologies alongside traditional methods;
- development of individual modular training programs for various levels of difficulty depending on your specific needs, as well as the production of electronic textbooks;
- creation of industry of modern means of education, the relevant world’s scientific and technical level and is an important prerequisite for the implementation of efficient strategies to achieve the goals of education.

Further development in the higher education system requires significant investments, with primary focus on improving material resources in education, the complete computerization of educational institutions, the introduction of modern information technologies, efficient training and the professional development of pedagogical and scientific staffs, introduce new economic and administrative mechanisms for the development of education. All these problems require urgent solutions.

One should be aware that innovative development of higher education does not only involve growth in the volume of services provided, but also the strengthening of competitiveness in these services through the application of new knowledge and the

exploitation of the country's entire innovative potential. On the one hand, development in the Ukrainian business of new knowledge in the economy, the establishment of new and efficient market relations, and increased investment certainly played a positive role in this economic growth. On the other hand, at this stage, the factors of economic development, in particular, those of growth in domestic and external demand for Ukrainian products, including consumer products, still need to be determined. Unfortunately, the significant 2003 acceleration in export growth, which became one of the defining factors of economic development, was not due to competitiveness or the technological level of domestic goods, but rather to improved foreign trade and the appreciation of the Euro against the US dollar.⁹ This contributed to a rise in the average price competitiveness of Ukrainian products in the world market. The share of the Ukraine in the global trade of high-tech and scientific products remains very low.

The task of higher education is to train people in creative work, take the initiative and use of modern technology. In general, the service sector, including the sector of educational services in the Ukraine is underdeveloped. Despite some increase in the share of services in GDP (from 17% in 2001 to nearly 26% in 2009), it does not yet match the level of developed economies, where the figure is around 70%. Educational institutions can enhance their activities, offering the market quality services at conferences, conducting applied research, comprehensive training and retraining of specialists according to the demands of a particular employer, organization, analytical and scientific application software business processes.

It should be understood that innovation, considered as investment in the development of higher education, is aimed at the implementation of various projects in different areas of higher educational institutions and its appropriate infrastructure. The scientific and teaching equipment required for upgrading the scientific teaching base and the training costs that yield economic return (pay off) over time significantly exceed the average in the economy, and may not pay off at all. This implies that investment in higher education cannot be considered as *a priori* competitive (unless we are talking about higher education and not pseudo-education). This problem can only be solved from public funds in the framework of social and economic government policies, through granting privileges and preferences to investors implementing educational projects. The problem of the "unattractiveness" of educational innovations for the free market can only be solved in this way (as the benefits offset certain disadvantages of such innovations).

The conclusions and recommendations. Today we need a thorough reform of higher education aimed at the transformation of its roles in the globalizing world economy, which increasingly calls for innovative development. In particular, further integration is required in higher education, science and business in order to achieve high competitiveness.

It is necessary to develop and adopt a realistic government program aimed at supporting the functioning of higher education among the circumstances of rapid intellectualization in social production and the formation of a new technological or-

der. Appropriate amendments must be made in the current legislation aimed at the application of economic methods of stimulation of investment and innovative activity of higher educational institutions.

The European principles of organizing higher education should be implemented to ensure the preservation of traditions which have proven highly successful in the practice of management.

A general model must be built in innovation process organization in higher education, taking into account the government policy priorities, which include the following:

- continuous quality improvement in higher education, updating the content and form of organization in the educational process;
- granting economic and social guarantees for the professional self-realization of pedagogical and scientific staff, and raising their social status;
- combination of science and education;
- implementation of educational innovations and information technologies;
- establishing the industry of modern training and educational instruments, full support to educational institutions;
- re-orientation of the functioning of the market of educational services on the basis of appropriate scientific and methodological support;
- integration of Ukrainian higher education to the European and world educational spaces.

Consequently, the new model of organization and the government support of innovative activity in the sphere of higher education should include:

- the definition of public funding and investment in higher education as a priority direction of budget expenditures;
- the formation of a multi-channel system of investment providing higher education;
- full government financing of higher education in government and communal educational establishments in the volume defined by government standards;
- attraction of investments in the development of higher education by both legal entities and individuals;
- definition of priorities in investments in higher education and the concentration of financial resources;
- ensuring the efficient use of funds for the functioning and development of higher education.

Support to higher educational innovation should be based on the implementation of progressive management technologies, including various public-private partnership schemes similarly to those applied in developed countries.

The technology of target management needs to be elaborated in budgetary financing of higher education in order to have a realistic evaluation of the obtained results.

NOTES

- ¹ D. Kucherenko – O. Martyniuk: *Actual trends of life-long education in the Ukraine and EU*. Modern Science. Moderní věda, 2015/6., 43–50.
- ² D. G. Kucherenko: *The Economic model of management of development of higher education systems. Theoretical and methodological substantiation of an efficient financial and economic models of development of higher school*. Monograph (manuscript), ed.: I. M. Grishchenko, IVO, Kyiv, 2015, 124–132.
- ³ A.V. Korowski: *Evolution of human factor and its meaning*. Monograph, ed.: A. V. Korowski, KNEU, Kyiv, 2004.
- ⁴ O. A. Komarova: *The potential: theoretical and methodological practice aspect formulation*. DLEU, Kirovograd, 2009.
- ⁵ V. I. Lugovyi: *Economics principles of the development of the higher educational institutions of Ukraine*. Pedagogichna Presa, Kyiv, 2009, 6–7.
- ⁶ *Innovation policy of the higher educational institutions*. Ed.: R. N. Fedosova, Economics, Moscow, 2006.
- ⁷ Komarova, op. cit.
- ⁸ Lugovyi, op. cit.
- ⁹ Innovation policy of the higher..., op. cit.

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