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# THE REFORMATION OF HIGHER EDUCATION SYSTEM IN UKRAINE AS A FACTOR OF INNOVATIVE DEVELOPMENT OF NATIONAL ECONOMY

**Abstract.** The tendencies of the development of higher education system in Ukraine in the conditions of the global modern challenges are investigated in the article, the main problems are underlined and the strategic directions of the development of this system are defined. The analysis of the current state of higher education system in Ukraine based on the data of independent scientific institutes and international analytical organizations is carried out. The model of modern competitive higher education institution is worked out and basic components of the competitiveness are determined.

**Keywords:** higher education system; quality of higher education; quality assurance; government expenditure on education; competitiveness.

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# РЕФОРМУВАННЯ СИСТЕМИ ВИЩОЇ ОСВІТИ В УКРАЇНІ ЯК ФАКТОР ІННОВАЦІЙНОГО РОЗВИТКУ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ

**Анотація.** У статті досліджено тенденції розвитку системи вищої освіти в Україні в умовах глобальних викликів сучасності, виокремлено основні проблеми та визначено стратегічні напрями розвитку цієї системи. Здійснено аналіз сучасного стану системи вищої освіти в Україні на основі даних незалежних наукових установ та міжнародних аналітичних організацій. Розроблено модель сучасного конкурентоспроможного вищого навчального закладу та визначено основні складові конкурентоспроможності.

**Ключові слова:** система вищої освіти; якість вищої освіти; забезпечення якості; державні витрати на освіту; конкурентоспроможність.

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# РЕФОРМИРОВАНИЕ СИСТЕМЫ ВЫСШЕГО ОБРАЗОВАНИЯ В УКРАИНЕ КАК ФАКТОР ИННОВАЦИОННОГО РАЗВИТИЯ НАЦИОНАЛЬНОЙ ЭКОНОМИКИ

**Аннотация.** В статье исследованы тенденции развития системы высшего образования в Украине в условиях глобальных вызовов современности, выделены основные проблемы и определены стратегические направления развития этой системы. Проведён анализ современного состояния системы высшего образования в Украине на основе данных независимых научных учреждений и международных аналитических организаций. Разработана модель современного конкурентоспособного высшего учебного заведения и определены основные составляющие конкурентоспособности.

**Ключевые слова:** система высшего образования; качество высшего образования; обеспечение качества; государственные расходы на образование; конкурентоспособность.

**Urgency of the research.** Higher education system is a strategic resource for social and economic development of the country, one of the components of its global competitiveness and is a social institution, which influences on the formation of moral and cultural values of the individual and leads to the social progress. The education reform is one of the key reforms, that are defined in the "Strategy for Sustainable Development "Ukraine – 2020" [1], the purpose of which is the assurance of European life standards and access to the dominant position of the country in the world, while quality education is one of 17 global sustainable development goals.

The higher education system in Ukraine is in the state of reformation due to the accelerating the integration process and in the conditions of global challenges of today: the education guidelines are changing; new requirements to the quality of the education appear; educational legislation is adapting to European standards; the role of education system in the formation of civil society is increasing.

At the same time the range of problems at macro- and micro levels remains unsolved, that slows down the development of higher education in Ukraine and causes discussions among managers of the educational sector, academicians, scientist and others.

**Target setting.** The reformation of higher education system, quality assurance, definition of vector and strategic directions of the development, formation of the effective educational process management mechanism, implementation of transparent reforms form the preconditions for its integration into the world educational space and sustainable development of Ukraine. That is why the definition of trends, complex of problems and causes of the crisis, threats to the successful implementation of reforms and strategic directions of the development of higher education system in Ukraine is of great practical importance in modern conditions and plays a crucial role in social and economic development of the country and its further integration into the global space.

Actual scientific researches and issues analysis. Various aspects of the development of higher education system in Ukraine are investigated by a wide range of national scientists, among them: V. Bakhrushin, I. Degtyareva, I. Yehorchenko, M. Zgurovsky, I. Kaleniuk, A. Kuklin, S. Kurbatov, V. Satsyk, L. Sushentseva, S. Terepyschyy, Y. Fedorchenko and others. Research work of these scientists is devoted to the problems of higher education system and ways of their overcoming. The authors describe main tendencies of the development of higher education system in Ukraine, define strategical directions of its reformation in the modern global surrounding, investigate the peculiarities of public administration in the sphere of education and work out the complex of actions to ensure the competitiveness of Ukrainian universities.

**Uninvestigated parts of general matters defining.** The urgency of further research of higher education system in Ukraine refers to the necessity of definition of the priority directions of its reformation and measures to increase the quality of the educational process.

**The research objective.** The aim of the research is to analyze trends, to identify the main problems and to define the strategical priorities of the development of higher education system in Ukraine in the conditions of modern global challenges.

The statement of basic materials. At the beginning of the 2015-2016 academic year 659 institutions of higher education of I - IV accreditation levels operated in Ukraine [2], that is on 33% less than the number of institutions at the beginning of the 2000-2001 academic year [3]; 525 of them are of state and municipal ownership and 134 are of private property [2] (Fig. 1).

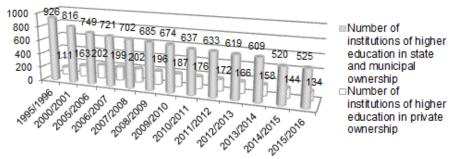


Fig. 1. Changes in the number of higher education institutions of I-IV levels of accreditation by ownership in Ukraine (at the beginning of academic years)\*

\*Source: based on data of State Statistics Service of Ukraine [2; 3]

The total number of students, enrolled in higher education institutions, was 1605270 people [2] (66,5% of the number of students at the beginning of the 2010-2011 academic year [3]). This trend is a consequence of demographic processes occurring in the country and does not indicate a decline of interest of school graduates to higher education, which, on the contrary, is very high. At the beginning of

the 2015-2016 academic year 176,6 thousands of students entered the secondary vocational technical school, 63,2 thousands of student entered the higher educational institutions of I-II levels of accreditation and 259,9 thousands of students were accepted to the higher education institutions of III-IV levels of accreditation [2], that indicates that higher education in Ukraine becomes mass.

As a scientist V. Bakhrushin notes, this tendency "is not an internal problem, which is caused by the specifics of Ukrainian society and it is "the global trend" [4]. Under such conditions, the necessity of assurance of adequate level of quality of higher education becomes the topical issue, which is the focus of attention of top-managers, wide range of researches and is discussed in society.

The decision making in the sphere of higher education management, including quality management, should be based on the results of the fundamental analysis of the current state of the system. The results of the researches of the educational sphere in different countries, which are carried out by international organizations, form the informational base for the analysis of higher education and quality assessment.

The quality of higher education is a component of Global Competitiveness Index, which is measured by World Economic Forum and is presented in the Global Competitiveness Report. According to the "Global Competitiveness Report 2015-2016" [5] Ukraine takes the 79<sup>th</sup> place of 140 countries by the level of competitiveness (score 4,0 [5, p. 354]) and the 54<sup>th</sup> place by the level of quality of the education (the value of the component "Quality of the education system" is 4,0 [5, p. 355]). It is to be noted, that Ukraine improved its position in the international ranking in recent years: according to the "Global Competitiveness Report 2012-2013" Ukraine took the 70<sup>th</sup> place by the level of the quality of education among 144 countries [6]. The country outruns such countries as Czech Republic, Italy, Poland, Spain, Bulgaria, Hungary and other by the level of the quality of education. The first place in the ranking belongs to Switzerland, Paraguay takes the last place in the ranking (Fig. 2).

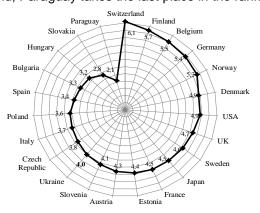


Fig. 2. The results of the assessment of the quality of higher education system in Ukraine and foreign countries by World Economic Forum\*

\*Source: based on data of "The Global Competitiveness Report 2015–2016. World Economic Forum" [5]

The state of the education system in the country is one of the indicators of social wellbeing, which is one of the three aspects of sustainable development. The component "education" is measured by the indicator "combined gross enrolment ratio for primary, secondary and tertiary schools", which expresses the number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of official school age for the three levels (since all students are included, regardless of age, the ratio can be more than 100%; this happens when students younger or older than the official school age are enrolled) [7, p. 34]. According to the data of Sustainable Society Foundation [8], the indicator "education" in Ukraine was estimated in 9,42 score (on a 10-point scale) in 2014, that exceeds the worldwide average estimate (7,56 in 2014) (Table 1) [7,8]. The level of education enrollment is high in Ukraine and it increases every year. The highest level of the education enrollment is in Australia (112,3%), New Zealand (106,6 %), Ireland (106,0%), Netherlands

(105,7%), Spain (105,6 %), the lowest – in Sudan (38,6%), Niger (37,5%), Papua New Guinea (37,0%) [7, p. 35].

Table 1
The results of the assessment of the indicator "education" in Ukraine by Sustainable Society Foundation\*

Indicators		Years					
malcators	2006	2008	2010	2012	2014		
Combined gross enrolment ratio, %	86,2	88,8	91,2	92	94,2		
Score of the indicator "education" in Ukraine (one of the indicators of social wellbeing)	8,62	8,88	9,12	9,20	9,42		
Average score of the indicator "education"	7,11	7,25	7,35	7,42	7,56		

<sup>\*</sup>Source: based on data of the Sustainable Society Foundation [7, 8]

There is a correlation between the state of the education system and the level of prosperity of the country. According to the Prosperity Index, published by Legatum Institute in 2015, Ukraine ranked the 70<sup>th</sup> position among 142 countries by the level of prosperity, while in 2014 the country took the 63<sup>rd</sup> rating position [9, p.10]. Norway is the highest ranked country (1<sup>st</sup> position in the ranking), Central African Republic is the lowest ranked country (142<sup>nd</sup> position in the ranking) [9, p.11-12]. Sub-index "education" is one of the 8 components of Prosperity Index. Education sub-index measures countries' performance in three areas: access to education, quality of education, and human capital [9, p.39-40]. Ukraine took the 37<sup>th</sup> ranking place by the state of education system in 2015, Australia ranked the 1<sup>st</sup> position, Canada took the 2<sup>nd</sup> place in the ranking, Denmark took the 3<sup>rd</sup> rating position [9, p. 3] (Tab. 2).

Table 2

Ranking of countries by the level of prosperity, according to the data of the Legatum Institute \*

Country	Rating position by the Prosperity Index				Rating position by sub-index «Education»			
	2012	2013	2014	2015	2012	2013	2014	2015
Australia	4	7	7	7	2	2	1	1
Canada	6	3	5	6	3	3	2	2
Denmark	2	6	4	3	16	18	3	3
Netherlands	8	9	9	8	11	12	4	4
Norway	1	1	1	1	6	4	5	5
Finland	7	8	8	9	8	6	6	7
USA	12	11	10	11	5	5	11	9
Slovenia	24	24	24	15	9	9	12	11
Germany	14	14	14	14	15	15	10	12
Czech Republic	28	29	29	26	22	24	23	13
United Kingdom	13	16	13	15	30	30	20	25
Poland	32	34	31	29	38	38	31	33
Ukraine	71	64	63	70	29	31	42	37
Bulgaria	48	49	48	51	51	49	48	44
Italy	33	32	37	37	36	36	38	47

<sup>\*</sup> Source: Based on data of "The Legatum Prosperity Index 2015", Legatum Institute [10]



The results of the assessment of the education system in different countries in 2015 by Legatum Institute indicates, that Ukraine belongs to the group of countries with upper middle level of the development of education system (these countries take from 31st to 71st ranking place), the sub-indicator "education" is estimated in Ukraine in 1,196 [10].

This group also includes such countries as Belarus, Greece, Poland, Hungary, Bulgaria, Italy and other. The first 30 countries in the ranking form the group of the countries with high level of the development of the education system. These countries are: Australia, Canada and Denmark (TOP-3, which was mentioned earlier) and also Netherlands, Norway, New Zealand, Finland, Ireland, USA, Iceland, Slovenia, Germany, Czech Republic, Slovakia and other. The lowest ranked countries are: Chad (141<sup>st</sup> ranking place; sub-index "education" is estimated in -5,354) and Central African Republic (142<sup>nd</sup> ranking place; sub-index "education" is estimated in -5,027) and [10] (Fig. 3).

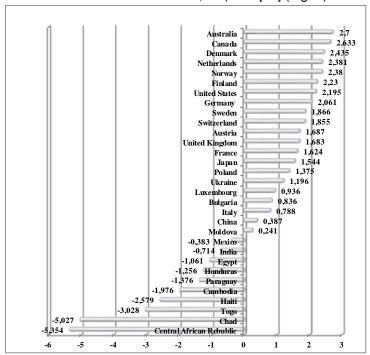


Fig. 3. The results of the assessment of the education system in different countries in 2015 by Legatum Institute\*

The monitoring of the results of international assessment of the higher education system in Ukraine [2-7] indicates, that despite the high level of education enrolment the level of the quality of the education is insufficient, that is caused by the influence of the range of factors on macro- and micro levels and affects the country positions in the world educational space.

Insufficient quality level of the education slows the economic growth, causes the rising unemployment and reducing of the quality life level. High-quality education is a factor of economic growth, increasing the competitiveness of the human capital, development of high-tech industries, and assurance of social wellbeing. Therefore, the quality problem is one of the key problems of the development of higher education system in Ukraine that is to be solved in the reformation process.

The development of education system forms the precondition for social sustainability, which is one of the components of sustainable development [11]. The start of implementation of educational reforms at the state level aimed to improve the educational process in order to ensure sustainable development of the country is the positive tendency in the development of higher education system in Ukraine. However, the lack of clear explanations concerning the practical application of certain regulatory acts, some mismatch between new legal acts and the Law of Ukraine «About Higher Education»

<sup>\*</sup> Source: based on data of the Legatum Institute [10]

[12] and also dynamic changes in legislation, the need for rapid adaptation of higher education institutions and pedagogical personnel to these changes affected the rate of higher education reformation.

Insufficient transparency of the financing mechanism and low amount of financing are reflected on the state of higher education system in Ukraine. Government expenditures on education in Ukraine are reduced for the last years. According to the data of State Statistics Service of Ukraine, expenditures on education amounted to 75907 million UAH in 2015 [2], which is 17,5 % of total expenditures, while in 2010 the share of expenditure on education in total consolidated budget expenditures amounted to 21,1% [3].

According to the data of UNESCO, the level of government expenditure on education as a percentage of GDP amounted to 6,67 % in Ukraine in 2013 [13] (Fig. 4).

Data concerning the government expenditure on education in 2012 and 2013 are not presented for some countries. Comparing the value of the index in 2011 it is possible to notice, that the share of GDP attributable to the financing of education in Ukraine (6,16%) is higher than in many other countries<sup>1</sup>.

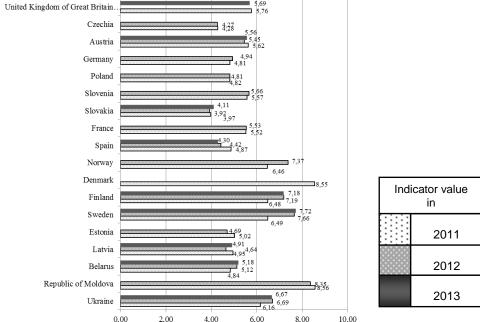


Fig. 4. Government expenditure on education as percentage of GDP (from government sources) in different countries in 2011-2013, %

\*based on data of UNESCO Institute for Statistics [13]

Upon that GDP in Ukraine in 2011 amounted to 163159,67 million USD, which was less than the value of this indicator in most of these countries: compared with Germany (3757464,55 million USD [14]) - in 23 times, United Kingdom (2594904,66 million USD [14]) - in 16 times, Spain (1487924,66 million USD [14]) - in 9 times, Poland (528742,07 million USD [14]) - in 3 times less. In 2015 GDP in Ukraine was sharply reduced in comparison with previous years and amounted to 90615,02 million USD [14] that is 31 % less, than a value of indicator in 2014 (the absolute value of the index amounted to 131805,13 [14] million USD) and 45 % less than GDP in 2011. Therefore, economic downturn and low GDP are the causes of the insufficient financing of higher education in Ukraine, which slow down its development. Potentialities of growth in financing of higher education should be found not in increasing the percentage of the GDP, but in increasing the absolute value of this indicator.

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<sup>&</sup>lt;sup>1</sup> Slovakia (3,97%), Czechia (4,28%), Poland (4,82%), Belarus (4,84%), Spain (4,87%), Germany (4,81%), Latvia (4,95%), Estonia (5,02%), France (5,52%), Slovenia (5,57%), Austria (5,62%), United Kingdom of Great Britain and Northern Ireland (5,76%) [13]

The increasing of the financing of higher education is an important factor of its development and also is a precondition of the quality improvement. On the one hand, large amount of funding does not guarantee the high quality of the educational process, but on the other – to assurance the quality it is necessary to create appropriate conditions for the realization of the educational process (in particular, the renewal of material and technical basis, implementation and applying of innovative technologies, including information and communication technologies), and also for carrying out the scientific research by academic staff.

In the process of reformation of higher education financing system it is reasonable to draw attention to the foreign practice of funding of higher education and to take into account the experience of other countries. In most European countries the performance-based funding is used (funding of higher education institutions based on the results of their work). The review of "performance-based funding" is presented in the report of European University Association - "Define thematic report: performance-based funding of universities in Europe" [15]. According to this mechanism universities get block grants, which cover the basic costs of higher education institution. In most cases block grants are the main method of distributing public funding to universities in Europe. As it is noticed in the report, "although formula-based block grants are the main way of delivering public funding in the majority of the systems considered, negotiated block grant/historical allocation remains the most important mechanism in some large systems such as in France, Italy and Poland (for teaching only in the latter two) as well as some smaller ones", "most countries, however, have a mix of different allocation modalities and the analysis shows a great diversity between systems" [15, p.17].

The issue of reformation of system of public funding of higher education is one of the important issues, which is discussed by the staff of Ministry of Education and Science of Ukraine, experts and scientists. The four sources of public funding of higher education are defined in the new model of funding: basic (block) funding (funding of educational and scientific activities), social fund, development fund (capital expenditure fund), and government target support fund. It is planned that 20% of basic funding will depend on the results of the university functioning [16]. That is why it is very important to define the procedure of the assessment of performance of higher education institution.

There is a problem of low rate of employment of young professionals in Ukraine, which is caused by general economic situation in the country primarily. At the same time, the educational process does not correlate with the trends in labor market. Skills of many graduates fall short of expectations of employers, which affects the rate of employment of young specialists. According to the data of State Statistics Service of Ukraine, 447418 students were graduated from higher education institutions in 2015, 21,9 % of them received job placement [2].

In addition, the development strategies are not elaborated in the majority of higher education institutions. Only a third of national universities had current development strategies in 2015 [17]. It indicates the necessity of determination of the trajectories of their development and formation the strategy plans.

Therefore, the key problems of the development of higher education system in Ukraine are:

- the quality of the education is not sufficient;
- the level of public funding of education and science is low;
- the educational process is not coordinated totally with the labor market, that influences on the skills of graduates and leads to low employment rate and to unemployment of young specialists:
- the innovative methods are being implemented into the educational process very slowly, educational technologies are not efficient;
  - knowledge and skills are mostly local, qualifications of graduates are not recognized globally:
- the number of students reduces every year, which is caused by demographic processes in the country;
  - the loss of potential applicants, high level of outflow of students into the foreign universities;
- material and technical base of the majority of universities is worn out, its modernization is carried out slowly:
  - the level of stimulation of educators is insufficient;



- dynamic changes in educational legislation, inconsistency of some regulations, lack of clear explanations for practical application of some regulations etc.

To increase the effectiveness of educational process and its quality it is necessary to ensure the coordination between educational process and needs of employers, which requires a dialogue and close cooperation between lecturers, employers and students to maintain a constant feedback and to involve the employers to the process of formation of requirements for training of specialists.

To strengthen the correlation between the educational process and the labor market it is appropriate to monitor the requirements and needs of different categories of employers (public authorities, entrepreneurs of different sectors of the economy, foreign companies etc.), to organize the meetings for students and HR-specialists, and also to evaluate the level of formation of general and professional competencies by lecturers (internal evaluation – for the purpose of making adjustments into the educational process if it is necessary) and by employers (external evaluation – in order to define the level of competencies according to their needs). It will allow employers to form the candidates pool from graduates, who have the highest level of competencies.

The interaction of all participants of the educational process and joint efforts are of great importance in the increasing of the quality of higher education. An important role in this process belongs to personnel of higher education institutions, because the level of its professionalism determines the level of knowledge and skills of students. Innovative changes should start from each employee of the education sector and they should be widely-spread and systematic. To ensure the increasing of the quality of the educational process and to promote academic integrity it is necessary to work out the Code of academic integrity (code of professional ethics for higher education) and to follow the fundamental principles, defined in the Code.

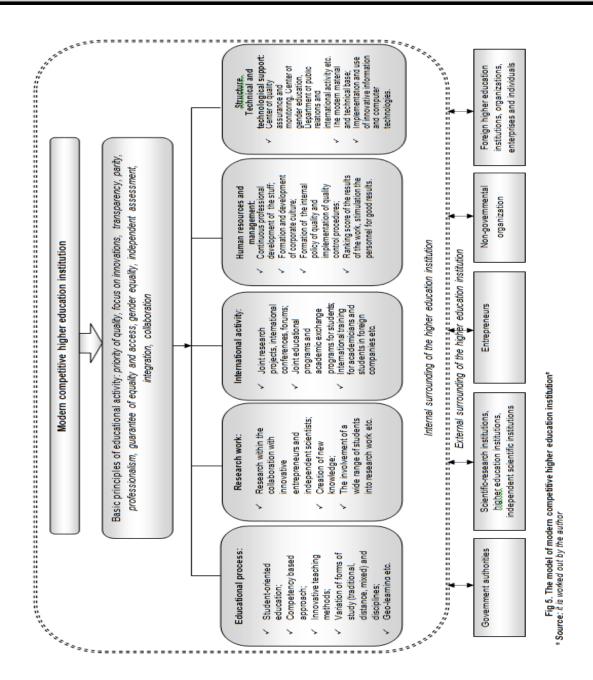
It is very important to define the strategic mission, vision, strategic goals and directions of the development for each higher education institution. Therefore, it is necessary to form strategies of their development with taking into account the state-level strategic plan. One of the main strategic directions of the development of higher education in Ukraine is to increase the competitiveness of higher education institutions by:

- creating the necessary conditions to assure a high-quality of educational process;
- ensuring high performance of research activities and strengthening the scientific potential;
- enhancing international education cooperation;
- development of infrastructure etc.

The model of competitive higher education institution is presented in Figure 6. Educational activity in higher education institution should be based on the following principles: *priority of quality, focus on innovations, transparency, parity, professionalism, guarantee of equality and access, gender equality, independent assessment, integration, collaboration* (Fig. 5).

An important role for the development of higher education system in Ukraine belongs to innovations. The implementation of innovative forms and methods leads to the improvement of educational process and to the achievement of its main purpose – formation of competencies of students, and also it contributes to the strengthening of the competitive position of higher education institution. Modern lecturer should implement innovative technologies into an educational process in order to ensure all round development of a student. Personality-oriented technologies are widely used in modern higher education institutions. Interactive lectures, training seminars, class discussion play a great role in formation of a wide range of skills of graduates.

The educational process should be innovative, student-oriented, be based on the competency approach. According to the principles of liberal education student should have an opportunity to define the vector of their education themselves and be responsible for this choice. The variations of disciplines and forms of study are necessary to be implemented into the educational process in order to assure the individual independence of the student. The independent scientific researches should be carried out in the modern higher education institution. At the same time the collaboration with innovative companies, independent research organizations and academic institutions can lead to the synergic results.



The high level of international activity of modern education institution is also of great importance for the process of formation of its competitive advantages. Innovation activity of the higher education institution plays an important role for the growth of the competitive potential. The internal system policy of quality should be formed and quality control procedures should be implemented in modern institutions. Therefore, modern higher education institution should operate in accordance with its mission and assure the high quality of all types of its activities.

The outcomes of the educational process in higher education institution depend on the character of interaction between the participants of this process. As Dr. Jan-Urban Sandal noted, educators and

learners economic income background reflects outcome of pedagogy. There are three types outcomes of pedagogy: 1) static (non-innovative): when educators and learners output is salary; 2) semi-static: when output is profit for one participant of the process and salary is output for other. In that case, when educators output is profit and learners output is salary pedagogic process is innovative on the educators behalf but still non-innovative on behalf of learners and vice-versa, 3) dynamic (innovative): when educators and learners gain a profit, dynamic pedagogy is not a part of the knowledge industry [18, p. 171].

From this point of view, it is impossible to reach the high quality in semi-static pedagogy, because the participants of the educational process have different interests and outcomes. Therefore, it is very important to ensure the coordination between educators and learners and focus their efforts on achieving the same outcomes. Traditional pedagogy refers to static: the educational process might be qualitative, but not innovative. And only when both educators and learners output is profit the educational process might be both high-quality and innovative.

**Conclusions.** The carried out research leads to the following conclusions:

- 1. The higher education system in Ukraine operates with insufficient efficiency and is in a state of adaptation to the global challenges of our time, new social and economic conditions and requirements of modern society. One of the key problems of higher education in Ukraine is the problem of quality. A number of educational reforms, which are being implemented in the country, should be aimed exactly at solving this problem. Achievement of qualitative results of the educational process is impossible without the process improvement and assurance of quality of resources used during its realization. To ensure the appropriate level of the quality of higher education an effective mechanism of quality management is to be formed.
- 2. With taking into account the main tendencies and problems, it is possible to define the key strategic directions of the development of higher education system in Ukraine:
- development of the national system of the quality assurance of the higher education and definition of the indicators of quality of higher education;
- improvement of the mechanism of financing of higher education to ensure its transparency and the financial autonomy of universities;
- integration of higher education into the business environment and strengthening its connection with the labor market;
- international cooperation and integration of higher education of Ukraine into the international scientific community, formation of the Program of internationalization of higher education at the state level and definition of the concept of internationalization of the concrete university;
- assurance of academic integrity, formation of the Code of academic integrity and definition of fundamental ethical principles, that educational personnel should follow, monitoring the corporate culture of institutions of higher education and introduction of amendments;
- formation of the strategies of higher education institutions, definition of their mission, goals, strategic directions of development;
- definition of the methodical approaches to the evaluation of the level of the competitiveness of higher education institutions in Ukraine and to assessment of integral efficiency of their operation;
- the implementation of the innovative methods and information technologies into the educational process:
  - development of mixed form of education (the combination of traditional and online education).
- 3. The reformation of higher education in Ukraine and, consequently, quality assurance of the educational process, forms the stage for its integration into the world educational and scientific space, plays an important role in increasing of the country's competitiveness and is one of the factors of economic growth and social wellbeing.

Consequently, the formation of the new strategy of higher education development, with taking into account international experience, in which the higher education system will take the place of important institution for introduction and creation new knowledge, is of great importance to ensure innovative development of the national economy and sustainable development of the country.



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