MODERN TRENDS IN HIGHER EDUCATION FUNDING

Nataliia Ivanova,
Candidate of Economic Sciences, Associate Professor,
National University of Kyiv-Mohyla Academy,
Tetyana Kuznetsova,
Candidate of Economic Sciences, Associate Professor,
Institute of the Personnel Training of the State Employment Service of Ukraine,
Irina Khoma,
National University of Kyiv-Mohyla Academy

Annotation. *The increase in the spending per student and at the same time the reduction in the tax return to the state budget make the universities optimize their expenses and engage more income flow. The existing models of funding higher education foresee different ways of distributing the state financial resources between the universities.*

Key words: *higher education funding, bureaucratic model, collegiate model, market model, model of funding according to the results of activity.*

Development of all the areas of economy, such as knowledge economy, innovation economy and creative economy, envisages that there are creative and experienced people with creative thinking standing behind it. According to the definition by R. Florida, people of this kind constitute the nucleus of the creative class. He asserts that the distinguishing feature of this class is that its representatives are engaged in the work, the main principle of which is to create a meaningful new form. According to R. Florida, the core of the creative class are the representatives of such areas of activity as science and technology, architecture and design, education, art, music and entertainment industry. In other words, these are the fields where new ideas are being generated, technology is being created and where a creative component of different areas emerge [1]. Thus, as a rule, people with higher education belong to the creative class. The role of higher education, in turn, is one of the key factors of development of creative economics.

Requirements and expectations to universities and, in particular, to the process of teaching and research, are growing rapidly. However, public investment in higher education is still small, and the costs associated with university activities are increasing, thus, ensuring financial sustainability is a major challenge for universities. The first step for universities in responding to these challenges is to determine the real cost of their activities. [2, p.6]

The financing of higher education in Europe, as in the rest of the world, has undergone significant changes over the past decade. [3, p.1] These trends vary both in different countries and within each country and constitute the context for the current widespread financial rigidity of higher education, as well as new policy decisions that, although constantly changing both between the countries and within them, are nevertheless, very clear and similar. [4, p.4]

The first trend is the increase of the cost of training per one student. The fundamental financial problem of higher education worldwide and the reason that even rich institutions may need to save money begins with the fact that universities face annual cost increases. [4, p.4] Such a trend of increasing costs per student over inflation is the production function of higher education, more specifically, its natural resistance to continuous replacement of labor by capital, which is the main source of productivity and growth in the general economy. [3, p.1] The increase in the cost of higher education is also caused by the creation of new programs and the initiation of new research, accompanied by enormous technological costs.

Research has shown that in Ukraine the number of students and graduates of higher educational institutions of state and communal ownership forms decreases, which is due to the demographic decline. However, the share of graduates of state-owned universities is steadily increasing, as opposed to the proportion of students in private universities, which dropped from 15.2% in 2010 to 9.9% in 2017.

The second trend is the fluctuation of the state, namely tax revenues.

Governments around the world are more often struggling with an increase in the tax burden on social insurance and rising costs for primary and secondary education, healthcare, public infrastructure, security and other social security costs.

In Ukraine, as the research showed, for the period 2000 to 2017 expenditures on higher education from GDP ranged from 1.3% to 3.6%. By 2010, there was a gradual increase in the share, but in subsequent periods there was a decline. However, in 2017 there is a rapid increase in the share of higher education expenditure to 3.6%, which is more than twice as much as it was during previous year.

The third factor affecting the financing of higher education in almost all countries is an increase in the share of world production, especially in developed countries, whose main economic sector is services, or the so-called knowledge economy based on cutting-edge technologies, design, finance and governance. The result of the knowledge economy is the increase of value for both the country and for individuals, or at least for some forms of higher education (especially management, finance, law, mathematics, technology and technology). The financial outcomes of this knowledge-based economy for higher education are manifested through new educational programs and the redistribution of faculties and students among these new programs. These two effects contribute not only to further accelerating growth, but also to the growth of training costs. This creates the basis for increasing investment by both students (or parents) and, where possible, governments. [4, p.7-8]

Strengthening globalization phenomena is the next reason for changes in education.

Decentralization, devolution, and deregulation are the final trends or set of related trends in most countries and reflect state's movement towards reducing the public sector, decentralizing government, privatizing agencies, and encouraging private organizations to provide services that were previously provided by certain government agencies. Although the large public sector and tax redistribution are preserved in many countries, such as the Scandinavian countries, new effective state governance replaces state ownership of all

means of production and the domination of the state bureaucracy. [4, p.9]

At long last, the impact of decentralization, devolution and deregulation on the financing of higher education is to encourage the development of private higher education and the privatization of state higher education. Universities around the world, both state and private, move from the status of state institutions to the status of state-owned corporations and carry out all the functions inherent in private ownership, regardless of the legal direction of their missions or their constant dependence on government revenues. [5, p.2]

In Ukraine, state form of ownership of universities is prevailing. In 2014, there was a decrease in the number of both public and private universities. As of 2017, the number of private higher education institutions was 77, which is three times less than the state universities. In general, the number of universities of both forms of ownership has somewhat declined.

With consideration for the global trends in higher education, universities have taken measures on costs and incomes. Cost decisions often raise questions about whether they affect the quality of education; income decisions often mean an unprecedented burden for households, that is, the families of students. Simple short-term solutions in regard with costs are increasing the size of groups and training load, differentiating the load on the faculty by hiring part-time workers and reducing low priority programs. Universities can freeze salaries or scholarships for students; reduce wage costs, maintenance and repairs. [4, p.11] The highest proportion of spending usually affects the quality of providing higher education services. Cost problems can have the following solutions: eliminating smaller entities; funding of quality research by several organizations with more grants; the establishment of short-term financial goals for the long-term needs of universities. [4, p.1] The decision of the financial economy of higher education, which involves reducing costs, appeals to many political and economic rights. Reducing costs does not mean increased efficiency or productivity. In many countries, there is still the idea that much more fundamental changes are needed, if not necessarily for all institutions, then at least for some institutions or some higher education systems. These more fundamental, radical and systemic changes, for example, may include: a more radical diversification of the industry, mergers, technically equipped training, e-learning and virtual universities.

There is more radical diversification of the industry, especially in those countries (e.g. Italy, Spain and other Southern European countries), where the classical research university still dominates with its leading faculties, and where practically all faculties are more focused on research and disciplines, and not really on university and students, is quite complicated to implement. The sector's diversification or relative change in the short-term is less expensive, less selective, more professional-oriented, and involves more hierarchically driven universities whose faculties are focused on learning rather than on research, often considered as a partial solution for the needs of higher education institutions. [4, p.14]

A merger, at least theoretically, can reduce the prime costs by increasing the scale of operations and obtaining cost savings for such departments as libraries and

administration. But for real reduction of expenses it is necessary to reduce faculties and employees, including the highest management, additional services, elimination of some academic programs and the rejection of precious institutional identities - measures that universities resist both institutionally and politically. If the merger is only nominal, that is, most programs and faculties are preserved, and simply the president or rector and several other top-level administrators are eliminated, the result will be more difficult and less effective management, demoralized faculties (both institutions) and the inability to realize significant savings as a real merger, and the complete closure of one of the supposedly "united" institutions. At the same time, institutional mergers may be both necessary and feasible and have actually taken place in countries where many universities are developing on a narrow scale. [4, pp. 14-15]

Technically equipped training, e-learning and virtual universities are the third option of a radical change in the University's cost cutting strategy. In most countries, there is an explosion in technological and remote learning, although the most successful programs were mostly outside of higher education and not in the direction of radical transformation of existing universities. New virtual universities sometimes attract a lot of interest, which eventually abates, as students of traditional higher education still want to get more complete experience within the university. Yet, there is definitely a great deal of interest from existing universities in all types of educational technologies, mainly as an addition to traditional teaching methods, as well as to provide a real e-learning. In developing and low-income countries, the potential may be greater than those who study in remote locations where the main costs of higher education are out-of-home spending (although lack of personal computers and good Internet connectivity may continue to be the main obstacle).

Despite the fact that innovation in teaching technology can ease the sense of financial constraints, the experience of more affluent industrialized countries suggests that educational technologies can enrich training, but significantly increase, at least in the short-run, the cost of training of a single student. If the goal is to give students access to curricula, remote learning can bring significant savings compared to alternative student placement in classrooms. However, for a single institution or even a national system that seeks to cope with disparate cost and income trajectory, most remote learning programs can enrich learning, but will in fact cost more than traditional training in case of creating an independent platform. [4, p.15]

Measures for increasing income include raising tuition fees, encouraging philanthropy, democratizing knowledge and access, relying more on the market, the private sector, and encouraging entrepreneurship in the faculties. Another opportunity for boosting cash inflow of universities is the establishment of a foreign campus or the encouragement of foreign students. It is believed that an increase in income is a better method than relying on a tuition fee that may fluctuate over time. High tuition fee involves certain contribution from parents. It is often difficult to determine paternal readiness to contribute to higher education. [4, p.43] High tuition fees may sometimes hold back low-income students, especially in countries with underdeveloped crediting

system. [6, p.1-2] In some countries philanthropy has made a significant contribution to education. The tradition of charity may be stronger in some cultures than in others. For example, in the United States, philanthropy has been very helpful in providing grants and helping low-income families. [4, p.13] In the UK, philanthropy accounts for 10 percent of university profits. In Europe, there are still psychological obstacles to raising funds with which charity is associated. [6, p.11]

Traditionally, universities had the key to knowledge both in the physical and philosophical sense. University libraries, faculties and research institutes, where knowledge was created, store and share it. Now knowledge is open to anyone who has a device and a connection, which makes it possible not just to receive facts and figures, but also to conduct analysis, interpret knowledge. [7, p.7] Back in 2007 OECD proposed the "Open Educational Resources" program. The OER project aims to promote access to learning for all, as well as for unconventional student groups, and, consequently, to expand participation in higher education. This can be an effective way to promote life-long learning for both individuals and the government, helping to bridge the gap between informal and formal education. The most commonly used definition of OER is "digitalized materials that are offered freely and openly to teachers, students and independent students for use in educational and research purposes." The OER includes training content, software for developing, using and distributing content and implementing open licenses. Open materials in the form of courses, that is, educational manuals are usually distributed as PDF files or as separate articles, often referred to as educational objects. Although there are no statistics yet, there is a rapid expansion of the number of OER projects, as well as the number of people involved and the amount of available resources. In January 2007, the OECD identified over 3,000 open academic programs from 300 universities around the world. Although English is the dominant language to date, translation of resources in combination with the growing number of non-English OER projects will have the potential to increase global use. [8, p.10] The benefits of open educational resources include the following: education is available to anyone; access free of charge, ideally; students can try the course before registration; flexible study periods not related to weekly schedules or calendar semesters; students work at their own pace; access from anywhere in the world; access to a huge amount of training materials; Intellectual capital is available for repeated use. [9, p.9]

The PPP is the next method of increasing university profits. The PPP can be defined as an agreement that the state concludes with a private service provider for certain services in order to purchase a specific service at a specified amount and quality at an agreed price for a certain period. This definition covers several different types of contracts that allow you to purchase various services and vary in their complexity. These services comprise educational services (management, maintenance and support, such as transport), maintenance services and infrastructure. There are 4 main types of contracts: vouchers, subsidies, private management and operations and private financial initiatives. The ultimate goal of the PPP is to increase the number of enrolled students and to improve the educational outcomes, in particular, the number of students from low-income families.

From the point of view of public administration, the reduction of costs by itself can be an important goal. [10, p.31] PPP contracts provide universities with greater flexibility in managing and providing educational services than in the public sector. The PPP contract is capable of ensuring better matching between supply and demand. Private providers in PPP contracts are usually selected through open bidding based on qualitative and costly criteria. Signing a contract contributes to the achievement of the optimal level of risk sharing between the state and the private sector. Another advantage is the promotion of competition in the higher education market. The private sector can compete with the public sector for students. In turn, the state can respond to this competition by improving the quality of education it provides in its institutions. [10, p.33-34]

The relationship between industry and higher education is changing and deepening. Industry plays an important role as a client and a partner in higher education institutions, and increasingly as a competitor. To survive and thrive, universities will have to build a much deeper relationship with industry in the coming decades. The scale and depth of sectorial training and internships, for example, will become an increasingly critical source of competitive advantage for universities. Research programs and applied research will increasingly be launched in partnership with industry. The commercialization of research turns into insignificant activity as the main source of funding for many university research programs. Venture capital, industry and entrepreneurs are already increasingly united for the commercialization of university research. As a result, industry and universities are becoming competitors in a number of specialized professional programs. Organizations of accounting are already providing specialized programs such as CPA, CA, CFA, etc. [7, p.11] Technology transfer can strengthen the link between the university and the industry that provides the funds. However, it was found that a larger proportion of industry funding does not affect the number of patent applications filed by the professor as inventor. There is a significant positive effect of their influence on the direct citation of these patents. Industrial research patents may not only be more successful in the financing process, but also more relevant and timely for the purpose of further applications in the industry. With regard to publications, financing by industry negatively affects the number of publications, which may slow down the development of knowledge. [11, p.17-18]

Online education, which still remains to be cutting-edge among social technologies, has been used to improve distance learning by adding various enhancements, changes or blending of new pedagogical approaches and technologies. Technologies used for distance learning and online learning include: correspondence classes, postal and printed publications; telephone and / or sound recordings; television and / or video recordings; computer auxiliary instruction; group communications (asynchronous and synchronous); web and multimedia materials; simulation and games; coeducation; asynchronous learning networks (ALN); common knowledge systems; immersed simulation; and wireless and portable devices. Most modern distance courses include one or more of these technologies or methodologies. Technology itself has not radically changed the basic concepts of distance learning or university education from the point of view of the basic

social function of education. However, there is a substitution process that can modify higher education. Gradually higher education is driven by direct communication with the use of teacher-oriented pedagogy offered by dozens of local, regional and national universities to online and hybrid digital technology courses to support constructivist, joint, student-centered pedagogy offered by several "mega universities" working in global scale. [12, p.59-60] Digital technologies will not cause the disappearance of the traditional university. Campuses will continue to exist as places of teaching and learning, research, community involvement and diverse forms of student activity. But digital technology transforms the way education is provided and maintained, for example, through real-time feedback programs and education in remote areas, both in developed and in developing countries.

Digital technologies also fundamentally transform the way of creating value within higher education and related industries. [7, p.9] At present, the two most common types of distance learning are provided online: MOOCs and SPOCs, which differ, first and foremost, in the number of students they provide services to. MOOC is an online open access course (i.e. without a special limitation of participation), which allows you to participate without restrictions, that is massively. Many MOOCs provide interactive elements to encourage interaction between students and between students and teachers, although the latter is not a mandatory attribute. The MOOC, with the exception of unlimited size, traditionally includes students, separated by both space and time, which allows students to study independently at their own pace without being required to adhere to a particular schedule. [13, p.6] SPOC is an online course that offers only limited number of seats and, therefore, requires some form of enrollment. SPOCs often have a competitive admission and can charge a tuition fee. [14, p.443] Despite the fact that the creation of MOOC is not cheap, it can bring significant savings, for example, for courses taught in several specialties in parallel throughout the year or in different places. The last approach applies to institutions with university campuses in different regions. The MOOC can also help to ensure a sufficient level of audience coverage by in-service lecturers, whose work sometimes costs more than the work of the freelancers. In addition, the introduction of the MOOC may also create a potential for new revenues, for example, in case of fees charged for obtaining a certificate or, if other institutions use MOOC, for your own training. Branding is important not only for the sale of consumer goods, but also for the sale of education. Universities today find themselves in an increasingly competitive environment and in a constant struggle to attract the brightest students, the best teachers and cash. MOOC can help to create the right positioning and distinguish the university from others, like a viral marketing campaign or effective advertising. [14, p.446]

The need to study the efficiency of public funding for universities is becoming increasingly important for a number of reasons. The growth of social demand for higher education, the globalization and the internationalization of higher education, the recognition of the need to improve the quality of research coincides with the financial aspects of the activities of higher educational institutions. Financing of the system of higher educational institutions is one of the most important elements that determines the

whole system of higher education - both institutional and qualitative, its accessibility and other parameters. No matter how big the state funding or any external sources of funding can attract higher educational institutions, it is clear that financial aspects are most vulnerable and relevant to higher educational institutions. Therefore, there are several strategic questions for the state and higher educational institutions: how to distribute limited financial resources of the state budget intended for higher education; which legal and financial mechanisms are optimal for reaching the ultimate accessibility of higher education, the quality of research and the competitiveness of national higher educational institutions in a globalized world. [15, p.336]

In accordance with the interaction of funding sources and the impact of funding recipients on the system of higher education, bureaucratic, collegiate and market financial models can be distinguished. [15 p.336]

The basic principle of the bureaucratic financial model of higher education is the full financing of the budgets of higher educational institutions from public resources. In this case, the state directly influences all spheres of activity of the higher educational institution through legal and financial instruments, which accordingly determines the structure of the higher education institution, in particular the number of departments, employees and the number of students enrolled, the need for certain branches of study and research. Government institutions control the use of financial resources. Higher educational institutions do not have the authority to manage their long-term tangible assets and, in essence, carry out state orders. The state can delegate certain functions to different supervisory bodies, where members of the academic community usually take part. [15, p.337]

One of the main advantages of this model is that in this way, the state can fully satisfy its needs by training and controlling the required number of specialists. The state also obtains opportunities and mechanisms for ensuring the qualitative research provided by legal acts. However, this model has more disadvantages than advantages. First, strict and centralized financing (usually accompanied by an elaborate regulation by the state) almost completely limits the real institutional autonomy and academic freedom of higher education institutions in solving issues related to the activities of the university. The system of higher education, too, becomes dependent on political power and can often become a hostage to various questionable political decisions. As a rule, educational institutions, where such a model of financing is implemented, is not allowed to dispose of financial resources on its own. Resources are allocated on the basis of data of the previous year, which, in turn, contributes to the ill-considered use of them, ignoring the daily needs of the university, which may change in the course of annual financial activity. It is also problematic to introduce changes that require rapid decision-making, as the decision-making process is usually regulated in detail, followed by numerous bureaucratic procedures. Despite the fact that the quality of education is regulated by the state, this reveals the weakness of such a model, because the quality assessment system should be legitimized and carefully described by both internal and external regulatory standards. [15, p.338]

A collegiate model usually envisages state-funded activities of higher education institutions and retains the right of universities to raise funds for individuals (through tuition fees, remuneration for services provided in projects, for research, for the funding of certain programs or scholarships) it also includes the right of academic institutions to freely dispose of their resources. Such model structure is based on a traditional view of the financial dependence of higher education institutions, as well as on trust between the state and universities. Although public funding typically accounts for most of the budget under such a model, institutions have the right to financial independence, which allows universities to decide how and where to effectively use the resources they receive. State subsidies consist of a budget of higher education, the use of which is decided at the institutional level of universities. With the use of such a model of higher education funding, the responsibility for the correct allocation and efficient use of resources is transferred to the administration of the university, which, in turn, has the right to make decisions that should be consistent with the state, social and academic needs of each unit in the allocation of resources. [15, p.338-339]

Such system of financing requires an appropriate management system for each particular model that can be described as a professional management model, where professionals, selected staff and students of the university manage the higher education institution. Such financing models and management models have their advantages and disadvantages. When the resources at the disposal of the university coincide with the academic needs, there is a high quality of academic services and strong academic solidarity. The prerequisite for this model is that higher education institutions have the right to full institutional autonomy, especially in the processes of management and distribution of resources, which undoubtedly positively affects academic freedom, higher education quality and optimal use of financial resources. [15, p.339-340]

Notwithstanding all the benefits, the use of a collegiate model of higher education funding may inevitably have some negative consequences. Higher educational institutions, receiving permanent state subsidies, complemented by private income, become overly independent of the public in terms of accountability. Normally, the rules and methodology for funding higher education institutions - not for public access or funding criteria - are too complex and unintelligible to the general public. There is a danger of prioritizing academic interests before the public interest. One of the most frequent negative aspects (also inherent in the bureaucratic model) is that the state budget is redistributed to the system of higher education from all members of society, but only for representatives of a certain social status, which are socially meaningful and financially privileged. [15, p.340]

The third model of financing higher education, the so-called market model, is becoming more prevalent. It is characterized not only by its ability to attract alternative financial resources, but also by its commitment to cooperate and coordinate the work of all participants in the system of higher education institutions, in particular those providing academic services (lecturers and scholars), using services (students and their employers) and a state representing the interests of society, the governing bodies of

universities, which are responsible for the efficient, high-quality functioning of the institution. The plurality of interests and financial resources, as well as the mechanism of their distribution, creates favorable conditions for expanding activities that are in the interests of different groups of society. It is believed that such a model of financing may not be the main contractor of higher education services, which, by regulation, will determine priorities. Universities are looking for and attracting more and more diverse funding sources that will ensure a high-quality and efficient functioning of an institution that meets the needs of the market. At the same time, the market-based financing model requires higher education institutions to provide sufficient information about their activities and foresees maximum financial and high-quality accountability, as investors (state, enterprises, private organizations, etc.) are interested in co-operating with clearly defined academic and managerial processes. [15, p.343]

This model emphasizes the balance between public and private funding, where the latter is a priority. One of the main benefits of this model is the competition between higher education institutions for private sector resources, which will allow universities to lower tuition fees, seek better quality, respond in a timely manner to market demand. It is believed that long-term goals can be neglected seeking maximum financial gain. The curriculum can be appropriately targeted. Consequently, costly programs with a long payback period can become unattractive, which will be a prerequisite for the shortage of some scientific experts in the state in the long run. Strict financial control not only creates a positive phenomenon, but also requires a lot of time for academic staff (filling in various reports, applications). Such control in certain aspects gradually begins to resemble the rules of governance in a bureaucratic model. The weakness of a market model is that, as a rule, rapid academic and scientific results are required, which may be incompatible with academic freedom. [15, p.344]

The analytical assessment of various university funding models and the analysis of the state-funding model for higher education institutions in Ukraine suggests that Ukraine has already moved away from the bureaucratic financial model of higher education, but has not yet fully implemented a collegiate model. Currently, the national funding model for higher education is now being sought. The proposal of the CEDOS analytical center on the replacement of the mechanism of public procurement model of state funding of higher education institutions by performance (based on performance) is interesting. [16]

References:

1. The Rise of the Creative Class / Richard Florida; transl. from English by N. Yatsyuk; [scientific ed. R. Khusainov]. - M .: Mann, Ivanov and Ferber, 2016. - 384 p.

2. Financially Sustainable Universities: Towards Full Costing in European Universities / The European University Association. – 2008. – 87 p.

3. Astrid Schwarzenberger Public/private funding of higher education: a social balance / Astrid Schwarzenberger. – Hannover: HIS: Forum Hochschule. – 2008. – 177 p.

4. D. Bruce Johnstone Worldwide Trends in Higher Education Finance: Cost-

Sharing, Student Loans, and the Support of Academic Research / D. Bruce Johnstone, Pamela N. Marcucci [Electronic source]. – Access mode: https://www.kiva.org/cms/worldwide_trends_in_higher_education_finance.pdf

5. Jandhyala B. G. Tilak Global Trends in the Funding of Higher Education / Jandhyala B. G. Tilak // International Association of Universities. – World Higher Education News. – 2005. – Vol.1. – №1. – P.1-3.

6. Higher Education Practices Worldwide for Sustainable Financing / [Sonjuhi Singh]. – THF Working Paper. – 2014. – №7. – 19 p.

7. University of the future / Ernst and Young [Electronic source]. – Access mode:http://www.bup.fi/index.php/downloadable-documents/books-a-reports/142-university-of-the-future-2012/file

8. Giving Knowledge for Free [Center for Educational Research and Innovation] / The Emergence of Open Educational. – OECD. – 2007. – 153 p.

9. Understanding Open Educational Resources / [Edited: Sanjaya Mishra]. – Published: Commonwealth of Learning. – 2015. – 54p.

10. Harry Anthony Patrino The Role and Impact of Public-Private Partnerships in Education / Harry Anthony Patrinos, Felipe Barrera-Osorio, Juliana Guáqueta. – Published: The International Bank for Reconstruction and Development / The World Bank. – 2009. – 98 p.

11. Hanna Hottenrott Industry Funding of University Research and Scientific Productivity / Hanna Hottenrott, Susanne Thorwarth. – Discusion Paper № 10-105. [Electronic source]. – Access mode: http://ftp.zew.de/pub/zew-docs/dp/dp10105.pdf

12. Starr Roxanne Hiltz Education Goes Digital: The Evolution of Online Learning and the Revolution in Higher Education / Starr Roxanne Hiltz, Murray Turoff // Communication of the ACM. – 2005. – Vol.48. – №10. – P. 59-64.

13. Li Yuan MOOCs and Open Education: Implications for Higher Education / Li Yuan, Stephen Powell. [Electronic source]. – Access mode: http://publications.cetis.org.uk/wp-content/uploads/2013/03/MOOCs-and-Open-Education.pdf

14. Andreas M. Kaplan Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster / Andreas M. Kaplan, Michael Haenlein // Business Horizons. – 2016. – № 59. – P.441-450.

15. Birutė Pranevičienė The Financing Methods of Higher Education System / Birutė Pranevičienė, Aurelija Pūraitė // Jurisprudence. – 2010. – Vol.2010. – № 8. – P. 335-356.

16. Єгор Стадний. Концептуальна модель державного фінансування ВНЗ за результатами діяльності. [Електронний ресурс]. – Режим доступу: https://cedos.org.ua/uk/articles/kontseptualna-model-derzhavnoho-finansuvannia-vnz-za-rezultatamy-dialnosti ¬¬– Y. Stadnyi. The conceptual model of the higher education state funding according to the results of activity. [Electronic resource]. - Access mode: https://cedos.org.ua/uk/articles/kontseptualna-model-derzhavnoho-finansuvannia-vnz-za-rezultatamy-dialnosti