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### **1.5. International experience in higher education development in the context of globalization processes**

Globalization processes contribute to economic and political goals transformation, and social values change. Scientific and technological progress is increasingly recognized as a means of achieving such level of production, which better meets the ever-increasing needs of a man, the development of an individual spiritual wealth. Among the key factors in modern society evolution one should name the development of information and communication technologies, which are actively implemented in all economic activities and are considered a significant factor of competitiveness. The outlined factors significantly influence the education sphere, as the learning process involves continuous improvement of curricula through the introduction of innovative technologies and modern knowledge system. Adaptation of native education system to international norms requires a fundamental change in training strategy and tactics, particularly with regard to Ukrainian higher education institutions. The main characteristics of a graduate at any education institution are its competence and mobility.

In this regard, the emphasis in academic disciplines study is transferred to the very learning process, the effectiveness of which is completely determined by a student activity. The success of achieving the goal depends not only on the fact what is mastered (the content of training), but also on its perception: individual or collective, in authoritarian or humanistic conditions, based on attention, perception, memory, or the entire personality potential, through reproductive or active teaching methods.

Such authors have made recent publications on the issues studied as J. Wildt, Y. Zeinel, I. Neil, T. Harelt, D. Hulia, I. Yanke and others. In spite of the wide range of scientific works, there is a need for further study of such complex and dynamic phenomenon as the introduction of innovations into educational process.

Many papers of native scientists are devoted to the issue of Ukrainian higher education development. But there is still a need for continuous research in innovations, introduced by advanced education institutions of the world in order to determine the possibilities of implementing these approaches in Ukrainian education institutions. This will contribute to increasing the national workforce competitiveness in the global economic environment.

The purpose of the research is to study the best practices of higher education advancement in developed countries.

Modern education system is one of the most advanced economic activities in developed countries. It enables the development of highly skilled and competitive workforce due to innovations introduction and, as a result, contributes to the intensification of national economic system development. The prerequisites for education system development are such technological innovations as modern information, computer and telecommunication technologies.

Global economic system active development in present-day conditions generates a need for constant improvement of educational background for economically active population. Knowledge gained at education institutions is rapidly losing its novelty, so there is a necessity for continuous training of a person throughout his lifetime. Ongoing information updating should take place through academic and corporate schools. Acquiring of knowledge, which meets the economic environment requirements, both at national economic system level and global level, enables individuals to be competitive in the labour market in the context of globalization processes. Thus, in 2016, according to Hannover research, about 50% of projects at higher education institutions were created for the first time or brought up to date<sup>65</sup>.

Various innovative models for students teaching were introduced in higher vocational training under current conditions. These include, for example, problem-based learning, project-based learning, independent research techniques, practice-oriented learning, competency-based approach to learning, online learning, and supervised individual learning.

Active teaching methods enable students to master skills in most effectively. The essence of these skills is to form vocational abilities which will be in demand at labour market and will allow the students to get a decent salary. Modern teaching methods should promote the development of individual creative and communicative abilities, the formation of personal approach to current problem.

At education institutions of the developed countries considerable attention is paid to acquisition of knowledge in such spheres as state and foreign languages, mathematics and exact sciences, personal qualities and true-life skills, ethical values. Among the main principles, on which the modern education standards are based, the following should be mentioned:

- positive dynamics in the achievement of subject-to-subject relations in the process of education;
- educational process optimization at all stages;
- students research activity stimulation;
- teaching models and methods interdisciplinarity;

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<sup>65</sup>Hanover research 2017 industry trend report. Retrieved from: [http://www.hanoverresearch.com/wp-content/uploads/2017/04/Higher-Ed\\_Industry-Trend-ReportFINAL-\\_WEB.pdf](http://www.hanoverresearch.com/wp-content/uploads/2017/04/Higher-Ed_Industry-Trend-ReportFINAL-_WEB.pdf)

- students creative potential promotion;
- students self-control/self-correction/self-assessment;
- individual approach to each student taking into account his abilities;
- adherence to the principle of equality in education process;
- introduction of interactive teaching technologies in education process;
- information and communication technologies usage;
- communication competence development;
- problem-searching abilities formation;
- leadership abilities development;
- self-education abilities formation<sup>66,67,68</sup>.

Online training became widespread in educational sector in the 21st century. Its essence is about the very content of the concept. Online training should be referred to humanistic and cross-functional educational process, which combines the main traditional approaches, the latest information and telecommunication advances. They, allow students to freely choose educational disciplines, due to modern facilities, up to standards for dialogue exchange with a teacher. Actual process of education is not related to a student's location in a particular geographical area and is characterized by flexible time.

The Internet advent allowed leveling the problem of distance between a teacher and a student owing to E-learning system development. It includes a number of innovative technologies and techniques for application of modern ICT in education. We can name the following: computer technologies, interactive multimedia, web-based learning, online training, etc. E-learning provides focused and controlled intensive independent work of students according to individual training course in any convenient location<sup>69</sup>.

Due to the increasing access to the Internet, since 2010, massive open online courses (MOOCs) have become widespread. To implement the MOOC, the Internet platforms are used, among which Coursera, edX, Udacity, etc. should be highlighted. Universities, private companies and individual professionals develop massive open online courses. Higher education institutions offer a variety of certified courses in different disciplines for a fee or free of charge. Among the higher education

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<sup>66</sup>Петегем В. Институциональный метод формирования мультисенсорного бренда / В. Петегем, Х. Каменски // Ростов-на-Дону: Южный Федеральный Университет. – 2010. – № 3(63). – 108 с.

<sup>67</sup>Всеукраїнська асоціація електронного навчання [Електронний ресурс]. – Режим доступу: [http://kvn-e-learning.blogspot.com/2015/01/blog-post\\_21.html](http://kvn-e-learning.blogspot.com/2015/01/blog-post_21.html)

<sup>68</sup>Jahnke I. Teachers' conceptions of student creativity in higher education / Isa Jahnke, Tobias Haertel & Johannes Wildt // *Innovations in Education and Teaching International*. – 2017. – Vol. 54, No. 1. – P. 87–95. – Retrieved from: <http://www.tandfonline.com/doi/full/10.1080/14703297.2015.1088396>

<sup>69</sup>Hulya D. Investigation of the Self-Efficacy Beliefs of Pre-Service Science Teachers in Terms of Following and Using the Innovations in the Field of Education / Dede Hulya, Yilmaz Zeynel Abidin & Ilhan Nail // *Journal of Education and Training Studies*. – Vol. 5, No. 2. – P. 21-30. – Retrieved from: <https://eric.ed.gov/?id=EJ1125753>

institutions that are actively involved in the implementation of MOOCs, Massachusetts Institute of Technology (USA), Harvard University, Berkeley University of California (USA), Australian National University (Australia), The RWTH Aachen University (Germany), Sorbonne University System (France), Delft University of Technology (Netherlands), University of Adelaide (Australia), University of British Columbia (Canada), The University of Queensland (Australia), Swiss Federal Institute of Technology in Lausanne (Switzerland), Hong Kong University of Science and Technology (Hong Kong), University of Oxford (Great Britain), Seoul National University (Republic of Korea), Karolinska Institute (Sweden), Kyoto University (Japan), Peking University (China) and others<sup>70,71,72</sup>.

A typical online course is based on the following scheme<sup>73,74</sup>:

1. Students get access to video lectures on the MOOC website, complemented by infographics and various resource materials.

2. The mode of job schedule is formed by the student independently and is limited only to the final date of their delivery.

3. There is a system of continuous counselling for students through interactive forums.

4. In many cases, students are involved in the development of online courses, which is expressed by students' tasks cross-checks. Students also discuss the educational content with developers.

5. Obtaining a certain number of points during study or successful completion of the final exam allows a student to get a certificate from an education institution.

Along with the process of studying at higher education institutions, there is a need to maintain their own infrastructure at the appropriate level. There is a need for continuous and safe provision of the latest facilities for all processes taking place at universities. Let us consider the main trends in this area, which are common for higher education institutions in the United States.

1. Understanding the importance of data. Large amounts of data are an important factor in influencing decision-making in all economic activities. The management of leading US universities explores the feasibility of installing technical devices for continuous measurement of various processes. Data can also provide some significant positive changes in academic buildings. For example, at Middle Tennessee State University, prognostic analytics, based on students' data, helped

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<sup>70</sup>Edx charter members. – Retrieved from: <https://www.edx.org/schools-partners>

<sup>71</sup>Coursera partners. – Retrieved from: <https://www.coursera.org/about/partners>

<sup>72</sup>Courses and Nanodegree Programs. – Retrieved from: <https://www.udacity.com/courses/all>

<sup>73</sup>Чубукова О.Ю. Адаптація системи управління економічної безпеки підприємства [Електронний ресурс] / О.Ю. Чубукова, О.В. Ольшанська // Ефективна економіка. – 2015. – № 2. – Режим доступу: <https://www.economy.nauka.com.ua>

<sup>74</sup>Ольшанська О.В. Сучасні аспекти когнітивістики в економічному розвитку / О.В. Ольшанська // Вісник Київського національного університету технологій та дизайну. – 2014. – № 6 (81). – С. 78–82.

raise the level of trust to management to 95%. The University of Maryland University College has made analytics an integral part of its activity, which has reduced the cost of marketing by 20%. Students support initiatives to collect data on them, since they believe that the results will improve the functioning of higher education institutions. KPMG survey showed that in 2016, 41% of universities used data for prognostic analytics. The next year index is expected to increase, which will improve the level of students' progress.

2. Higher education institutions' protection from the growing number of cyber attacks. Universities have a large amount of data on educational process and research. These circumstances require the creation of a powerful data protection system, since their destruction or theft can negatively affect the direct functioning of education institutions and cause significant reputational and economic losses as a result of obtaining personal data and intellectual property by outsiders.

3. Virtual reality technologies introduction. Oculus and Google have developed some accessories that can be used to immerse themselves in virtual reality. These technologies are gradually used at higher education institutions in the United States. For example, Indiana University Bloomington is working on creating a collaborative virtual working environment for students in all available disciplines. The University of Illinois medical students use virtual reality technologies to feel themselves in the role of patients.

4. Creating powerful networks for a large number of devices. A powerful Wi-Fi network is important for students as it promotes not only the improvement of access to educational resources on the Internet, but also creates favourable conditions for leisure. Networks optimization, creative IT policy and integrated Internet infrastructure research allow the universities to actively participate in networking the future.

5. Increasing the amount of cloud services. Cloud storage facilities play an important role in modern education process, since they allow you to store large volumes of information and provide access to it without interconnection to a specific location. In 2016, in the United States, about 81% of higher education institutions associated with information technologies, scheduled to increase spending on cloud services next year. With cloud storage, education institutions have large data centres, more effective software development tools, and available laboratories for research groups. According to a survey by MeriTalk, 39% of programs at US universities in 2016 were cloudy, and by 2021 this index is expected to increase to 62%<sup>75,76</sup>.

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<sup>75</sup>The 5 Biggest Higher Education Tech Trends in 2016. – Retrieved from: <https://edtechmagazine.com/higher/article/2016/12/5-biggest-higher-education-tech-trends-2016>

<sup>76</sup>Technology Trends in Higher Education Today and Tomorrow. Retrieved from: <https://www.citrix.com/articles/technology-trends-in-higher-education-today-and-tomorrow.html>

The introduction of innovative technologies by higher education institutions gives the opportunity to gain advantages over competitors in the sphere of education. For graduates, the adaptation of curricula to the modern requirements allows them to get high professional level that help to enter the international labour market. Scientific and technological advances require a continuous analysis for their appropriate implementation in the process of education.

### **1.6. Educational process evaluation in quality management of higher education**

Significant transformations in the political, economic and social spheres distinctive for the current life stage of Ukrainian society development have greatly actualized issues related to improving the higher education quality and its competitive level in terms of integration into the world education space. The concept "quality education" has become the research subject in various fields of knowledge, social, economic and political debate. Nowadays higher education in Ukraine is under the most intense period of its modernization, due to the introduction of competency approach in educational standards and the introduction of multi training. Usual training models of higher education applicants, their structure, priorities and legal activities are subjected to significant changes. Their conditions for implementation and their consequences require careful monitoring, analysis and forecasting as part of evaluation work.

Education evaluation and development is related to global changes taking place at the present stage of human development. These changes are often turbulent and unpredictable. Therefore, functions, methods, procedures and management technologies are now widely implemented in various activities, including education. Throughout the world, the paradigm of management theory is approved in education, which includes a systematic approach, strategic management priority of the socio-economic system development, monitoring and benchmarking. All these allow planning innovation effects, managing quality education, assessing the risks of management decisions, allocating human resources effectively and introducing new information technologies. Educational process evaluation plays a significant role in education decision-making, assessment and prediction of effects. This evaluation has been currently introduced in many countries with highly developed education systems. In the US and Canada there have been organized the Association of Appraisers – American Evaluation Association (AEA)<sup>77</sup> and Canadian Evaluation

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<sup>77</sup>American Evaluation Association (1995). Guiding principles for evaluators. In: W.R. Shadish, D.L. Newman, M.A. Scheirer & C. Wye (eds.). Guiding principles for evaluators. *New Directions for Program Evaluation*, No. 66. San Francisco: Jossey-Bass