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FOREIGN EXPERIENCE AND UKRAINIAN REALITIES OF MASS OPEN ONLINE COURSES USE IN INTERNATIONAL EDUCATION AREA

Abstract. The article deals with the problem of influence of information and communication technologies on the higher education development. The peculiarities and dynamics of the MOOC expansion in the international educational space are determined, the experience of MOOC usage in the conditions of transnational education has been analysed, and the MOOC functions in Ukrainian educational reality have been investigated. The following methods were used in research: content analysis of scientific literature to clarify the essence of the research main categories; online courses netnography for studying their specifics; questionnaire, statistical processing and graphical representation of the study results concerning the MOOC functions in domestic educational practices. The essence of the term "MOOC" is clarified, the concept of their construction as well as features of technological functioning is revealed. The history of MOOC development in foreign countries (USA, Australia, Japan, Europe) and Ukraine is analysed. MOOC emergence and expansion is associated with digital humanities development and digital humanistic pedagogy establishment in the international educational space. The research results, which define the MOOC functions in the Ukraine educational practices, namely, ensuring openness, enriching the content of learning, individualization and inter-activation are characterized. Five main problems of the MOOC implementation are highlighted and investigated: 1) the presence of two different MOOC types; 2) the role of a teacher in MOOC; 3) participation of students in MOOC; 4) understanding and usage of the "mass" character of MOOC; 5) the boundary between the MOOC openness and control over them. Unprecedented popularity and opportunities for reaching the student audience have prompted international organizations and their education departments to initiate global forums to discuss the urgent economic, social, technological, psychological and pedagogical issues that arose during the MOOC introduction, as well as to adopt regulatory documents to ensure the quality of MOOC provision.

Keywords: information and communication technologies; transnational higher education; open educational resources; massive open online course; foreign experience; Ukrainian reality.

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1. INTRODUCTION

Problem statement. At the beginning of the 21st century information and communication technologies (ICT) are extremely widely represented in the universities' administrative, research and educational work. During 2009 World Conference on Higher Education (WCHE)"The New Dynamics of Higher Education and Research for Societal Change and Development" (UNESCO, Paris, 5-8 July), the link between the growing role of ICT and open and distance education expansion, which is due to the massive choice of online learning by students, was confirmed [1]. Explaining the key trends in higher education, which are primarily the accelerated development of on-line learning, the researchers relied on statistics from the US higher education system, according to which the set of distance courses in the US from 2009 to 2010 increased by 21 % compared with 2 % increase in the total number of university students. In 2014, more than 80 % of American students chose on-line courses, compared with 44 % in 2009 [2, 24]. In 2011 91 % of two-year and 60 % of four-year American colleges already launched large-scale on-line training [3]. Open universities are pioneers in using on-line learning, being large distance learning institutions that include more than one hundred thousand students (British Open University) or even more than a million (Open Indira Gandhi University in India). For many decades, these institutions have been using ICT totally in their administrative, scientific and educational work, encouraging non-formal learning and open-access teaching materials through the 'open educational resources' model. Open University Rector, Martin Bean, believes that one of the modern university's functions is to secure the path from non-formal education to formal education for all interested persons. This could create new examples of ICT-based learning in the higher education system, since people are turning to the global repository for the purpose of seeking materials for their research, without any restriction for certification. This will ensure an interesting interaction between secondary, higher as well as adult education, thus creating objective conditions for the formation of sustainable systems for the continuous education, training, retraining and professional development of specialists at the global, national and regional levels [2, 24].

Due to globalization and integration processes, the number of multimedia content users, and especially video collections in Japan, is increasing. Japanese scholars J. Fukuhara and T. Matsumura emphasize the need to expand the Japanese Open Course Ware Consortium (JOCW) community of users, offering a wide range of free access to training materials through the Internet. Today, the JOCW database has about 1,500 courses, over 200 of which are in English, including lecture notes, video and audio materials, multimedia presentations. According to a nationwide poll conducted in December 2009 by the Center for Information and Communication Technologies and Distance Education (CODE) and the Open University of Japan, 60 universities in Japan exchange training materials with each other, 6 % use teaching materials from other universities in Japan; 58.5 % offer their own teaching materials to other universities in Japan; 17.4% use educational materials from universities of other countries; 24,1% offer educational materials to universities in other countries [4, 90].

The implementation of this idea began in 2001, when the Massachusetts Institute of Technology (MIT) for the first time opened free access to its training courses (Open Course Ware) [2, 166]. Since then, the opening of educational resources is considered as the most promising direction for higher education modernization. The term "open educational resources" (OER) was created in 2002 during the UNESCO Global Forum concerning the impact of OER on higher education, with further clarification as "any type of educational materials in the public domain, or released with an open license, that allows users to legally and freely use, copy, adapt, and re-share. OER may include full courses, teaching materials, individual modules, textbooks, videos, tests, software, and any other means, materials,

technologies used to provide access to knowledge" [5]. A number of documents have been created by the international community to OER support and develop, the main of which is the UNESCO "Paris Open Educational Resources Declaration" (2012), approved during the World Open Educational Resources Congress [6].

The relevance of the study is determined by the integration of Ukraine into the international educational space, the need to use innovative technologies, and the widening of opportunities for non-formal learning for improvement of the quality of Ukrainian citizens' education, as stated in the Laws of Ukraine "On Education" (2017), "On Higher Education" (2014), "Strategy of Sustainable Development of Ukraine – 2020" (2015), etc.

The **analysis of recent research and publications** showed that the leading role in OER development belongs to the universities as recognized and reliable sources of educational and scientific materials. The world leading universities create their own open educational environments or join leading companies and international organizations (such as the Massachusetts Institute of Technology and the United Kingdom Open University, YouTube Edu, UNESCO OER Community, WikiEducator etc.). In 2008 as a result of such cooperation the first Massive Open Online Course (MOOC) was created by Dave Cormier and Brian Alexander from Manitoba University (Canada) for 24 students and 2,200 online registered persons [7]. However, today's outlines and the real massive expansion of MOOC were attainable at Stanford University in autumn 2011 due to the introduction of a free on-line course on Artificial Intelligence by Peter Norvig and Sebastien Thrun. This course enrolled 160,000 students from the vast majority of countries in the world (except North Korea) [8, 4]. As we can see the MOOC is one of the newest forms of free distance learning that provide interactive, complete training courses (a set of video lectures and auxiliary training materials, examinations, evaluations, certification) that are openly accessible on the Internet for the simultaneous participation of a large number of people. W. Lawton and A. Katsomitros from the Observatory on Borderless Higher Education (London, UK) consider MOOCs as tectonic changes in higher education evolution and internationalization, since, according to the authors, the MOOC, being free learning, designed for a large number of people, develop a "peer-to-peer" approach to obtaining education with a guaranteed certification, in contrast to the accumulation of academic loans in terms of the traditional educational process [8, 1].

Despite the brief history of the phenomena, scientists from all over the world, in particular, the United States (F. Altbach, D. Atkins, E. Brown, B. Woss, M. Waldrop, A. Hammond), Europe (O. Gebel, B. Dendev, W. Lawton, A. Katsomitros), Ukraine (V. Bykov, N. Bidyuk, I. Kulaha, V. Kukharenko) have dedicated their research to MOOC. An analysis of their works suggests that they mainly concern the economic, sociological and technological aspects of MOOC development and implementation.

The research goal is to analyze the experience of MOOC usage in the international educational space and explore their functions in Ukrainian educational realities.

To achieve the goal, the following tasks were set:

1) to reveal the meaning of the concept of "MOOC"
2) to analyze the history of MOOC development in foreign countries (the USA, Australia, Japan, Europe);
3) to characterize MOOC emergence and expansion in Ukraine;
4) to highlight and investigate the role of higher school teachers and high school pedagogues in using MOOC in Ukrainian educational practices;
5) to define participation of university and high school students in MOOC in Ukraine

During the study, the following methods were used: content analysis of scientific literature to clarify the essence of the research main categories; online courses netnography for studying their specifics; questionnaire, statistical processing and graphical representation of the study results concerning the MOOC functions in domestic educational practices.

2. THEORETICAL BASIS OF THE STUDY

MOOC development and extension is associated with digital humanities evolution and digital humanistic pedagogy establishment in the international educational space [9]. The MOOC essence is reflected in its name, where "mass" means that a large number of participants is required, therefore from 30 up to 50 active students are required for optimal work and generation of information; "open" confirms that courses are free of charge and anyone can join them at any time; "on-line" means that the course materials and the results of the collaboration are on the Internet in an open access for all participants; "courses" means that they have a title, an appropriate structure, rules of work, and general goals, which can be transformed into specific personal tasks for each participant. D. Cormier explained the term "MOOC" as a "conglomerate consisting of several layers: living sessions, records, a set of discussion forums, work with Wikipedia and blogs, and a unique aggregator called "Daily" [10].

The concept of MOOC construction is based on the key principles of two theories of learning organization, namely:

1) connectivism, which embodies the principles of pedagogical innovation within the network learning method (the variety of learning approaches, the key of which is understanding the learning as the process of network formation and decision making), and

2) cognitive behaviourism (learning and cognition are considered as a dynamic process in action), on which the institutionalized method of teaching organization is based, which is characterized by short social contacts, excessive dependence on the content of the video lectures and the automated evaluation [2, 211; 11, 21; 12, 6].

Let us characterize them precisely. It is well known that during the last thirty years ICTs have been firmly integrated into the educational process to support various pedagogical approaches. Thus, *behavioural models* were the basis of computer learning programs such as "training and practice" that dominated from the late 60's till early 80's of the twentieth century, and even today a number of modern systems of learning process control are based on them. Their main disadvantage is that they are usually based on the paradigm, which in the majority encourages "finding the right answer" rather than raising new questions in the cognition of certain phenomena or processes. *Cognitivist theories*, emphasizing the values of mental models that are actively created by the student during their interaction with the environment, are based on the premise that the object of knowledge is clearly defined, and the task has several possible correct ways of decision. *Constructivist* theories better explain how learning takes place in an unclear context. Considering thinking and learning as an individual process of re-structuring reality, constructivist pedagogy adds to it a communicative aspect that is enhanced by the use of ICT. Nevertheless, even those pedagogical theories that view knowledge as a product of individuals' communication and cooperation over the solution of a particular task do not explain sufficiently the processes by which they will learn and operate in the knowledge society of the 21st century [13].

In order to ascertain the depth and extent of the network society influence on learning and teaching processes, J. Siemens substantiated *connectivism* as a modern theory of learning in the context of digital age. Connectivism theory is based on the idea that knowledge is disseminated through a network of links, and the learning process consists of the ability to create, cross, and combine such networks [14]. In addition, technological and social networks, according to J. Siemens, are even capable of "removing the walls' of a classroom, levelling out the traditional role of a teacher, which remains the same in behaviourism, cognitivism as well as in constructivism [15]. Since the theory is based on the widespread use of information and communication technology, it assumes that the student's role is transformed from simple memorization and understanding of everything to the ability of finding and applying

knowledge, at the time and place where it is needed. At the same time, based on the "produsage" concept by Axel Bruns [16], the connectivism theory of learning is also based on the assumption that the knowledge production is due to the consumption of content. The teacher, in this case, performs two functions: firstly, an additional auxiliary, which consists in establishing cooperation between students in order to create and reproduce the content; and secondly, constructivist one, for designing the interaction of students with existing and new knowledge resources. As we can see, in contrast to traditional pedagogical approaches, the teacher does not bear individual responsibility for the definition, creation or provision of learning content. Dynamic development of ICT induces all participants of the learning process to adapt to new forms and methods of integrated mastering of "distributed" knowledge, one of which is the connectivist MOOC [10, 109].

It is worth noting that the first MOOCs were based on the theory of connectivism (hence the name "connective MOOC – cMOOC"). From the very beginning, the cMOOCs were designed for enrichment, combination, creation and dissemination of knowledge between distributive groups that simultaneously interact and communicate online. Connectivist MOOCs are being developed, directed and conducted by teachers through open source web platforms to provide minimum interference and control, and thus maximize the ability of students to self-replenish the network with learning content, the ability to independently study and choose the necessary information. It can be argued that the term "mass" lies precisely in: 1) the large number of relationships between participants in the educational process, 2) the volume of generated content and 3) the intensity of their educational activity, as opposed to the "mass" number of learners, which is characteristic of a different type of behavioural MOOCs (xMOOC) [11, 21]. In other words, the cMOOCs are trying to create a personal learning network for each student, based on the constant close interaction between students and teachers and with each other. And consequently, the student's success during studying at this type of MOOCs is ensured, first of all, by the ability to navigate well in the network, clearly formulating personal learning goals, and independently choosing the content of learning, since the development of the student's personality is central to the cMOOCs.

The second type of MOOCs, based on behavioural principles for knowledge acquiring through continuous repetition and testing, appeared in 2011 at Stanford University (USA) on the basis of ICT courses and was named "xMOOCs". This type of MOOCs are structured, preferably in the form of regular lectures, and are distributed through private learning management platforms, on contractual terms between institutions and faculty. These open distance courses include viewing video collections, working with texts, performing tasks with automatic checking and final testing. In contrast to cMOOCs, behavioural ones are characterized by a greater mass (typically 50,000 students), focusing on the learning content and teacher's more distinct role, where the teacher determines the purpose of learning, has predominantly a supervising function, not observing the student's learning process [17]. According to the researchers, the advantage of xMOOCs is their potential to adapt quickly to the ever-changing number of learners, emphasizing the mission of the global means of opening access to education for the world's largest audience [18].

Due to the mass online courses development, xMOOCs began to dominate and the branch as a whole began to be associated with the second type courses. First of all, it mostly depends on the approaches to funding, the range of courses offered, the volume of trainees involved and the profile of partner institutions. However, both types of MOOCs demonstrate the significant potential of their impact on higher education extension, expanding opportunities for cooperation between students and educational institutions on fundamentally new grounds. At the same time, the pedagogical differences between two types of courses are gradually being alleviated, thanks to the constant experimentation of teachers, educational

institutions and platforms. The study of modern bibliographic sources on MOOCs development and implementation suggests that over the past few years, researchers' scientific interests concentrate in the following areas: 1) avoiding the traditional categorization of two types of MOOCs in favour of new forms; 2) substantiation of the concept "hybrid MOOC"; 3) analysis of the process by which teachers can act as mediators in the dichotomy between xMOOC and cMOOC [11, 21]. In other words, nowadays there is a rethinking of xMOOC / cMOOC binary in recognition of their design, goals, topics and teaching styles diversity. Some teachers and institutions create their own names for this phenomenon, in particular: "Distributed Open Collaborative Course (DOCCs)"; "Participatory Open Online Course (POOCs)"; "Small Private Online Course (SPOCs)"; "Big Open On-line Courses (BOOCS)" [11, 22].

From the technical point of view, MOOCs are situated on the specially created platforms of the world's leading universities, the most famous of which are: *Coursera* (Stanford University) https://www.coursera.org/, *EdX* (Massachusetts Institute of Technology and Harvard University) https://www.edx.org/, *Udacity* (Stanford University) https://www.udacity.com/, *Khan Acadamy* (Harvard University) https://www.khanacademy.org/.

3. RESULTS OF THE STUDY

According to the study, the first and most powerful MOOCs were developed on the territory of North American countries. However, during 2013-2014, other countries intercepted the American initiative. In particular, in Australia, the Association of Open Universities, which united eight universities, organized MOOC Platform *Open2Study* www.open2study.com. This platform offers courses in anthropology, business and finance, education and pedagogy, management and marketing, ecology, medicine and nutrition, humanities and arts, technology. Some leading Australian universities join foreign platforms, in particular, the Melbourne University was the first to enter into agreement with *Coursera*, and the Monash University became a partner for the British Platform *FutureLearn* [19, 18].

MOOCs popularity rapidly expanded across the European continent, as evidenced, in particular, by the final report of the First European Summit of MOOCs Stakeholders held in June, 2013 at the Lausanne Federal Polytechnic School (Swiss Confederation). In a document signed by representatives of 13 countries, it is noted that at least 249 European higher education institutions have developed and implemented 345 MOOCs, thus achieving the third place in the world. In September, 2013 European universities offered over 60 courses in the technology sector, about 60 courses in humanities, 50 courses in natural and social sciences, 40 courses in business and management, 20 courses in mathematics, statistics, art studies etc. At the same time, it should be noted that many European higher education institutions have entered into partnership agreements with United States universities to participate in MOOCs development [11].

As in the USA, the history of MOOCs introduction into higher education in the UK is a bit longer than it seems at first glance. For the first time, however, some courses were offered by the Coventry University in 2011, by the Higher Education Academy and the Open University in 2012, and in early 2013 the University of Edinburgh joined Coursera, and in October, 2013 the Open University created its own *FutureLearn* platform www.futurelearn.com, which now has 26 partners, including the British Library, the British Museum, the British Council, etc. In 2014, British universities implemented 58 MOOCs on different platforms, namely 29 on FutureLearn, 21 on Coursera and 8 with support from various social media. The preference is given to courses in social sciences (18), in the second place there are courses in humanities and medical sciences (13), than go science courses (8),

and computer sciences (6) as well.

It is worth noting that Ukraine is taking the first steps in joining MOOCs. In particular, the first on-line platform for free learning on the basis of Taras Shevchenko Kyiv National University was created in 2013. The project is titled "*University Online*" http://online.knu.ua/about/, within the framework of which the first free course "Brand Management" was held. 52,550 listeners from 62 countries visited Ukrainian online course, namely: the USA, Germany, Canada, the United Kingdom, Austria, Poland, Italy, the Netherlands and China. In Ukraine, the course was held in 163 cities, most often in Kyiv, Kharkiv, Lviv, Dnipro. At the beginning of 2014 on the basis of the Bionic University in the National University "Kyiv-Mohyla Academy" one of the 30 Global Learning Hubs was opened by *Coursera*. Students are able to take part in selective online and offline sessions, attended by special local coordinators – specialists in relevant disciplines. All centres are integrated into the global network for expanding communication opportunities between students. In October 2014, a new Ukrainian MOOCs Platform *Prometheus* was launched as a non-profit, community-based project, independent of any higher education institution. In cooperation with the best university lecturers, in particular, from National University "Kyiv-Mohyla Academy", the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Taras Shevchenko Kyiv National University, this platform creates and hosts MOOCs, as well as provides a free opportunity for universities, organizations and leading companies to publish and to distribute own courses [20]. We hope that these initiatives will be successfully developed and will mark the beginning of MOOCs popularization in Ukraine.

To determine the MOOCs functions in Ukrainian educational practices, we conducted an empirical study on the basis of Special Education and Social Work Department at the V. G. Korolenko Poltava National Pedagogical University. The survey was conducted in 2016-2018 and covered 380 participants, including 123 senior pupils, 142 students of different courses of the first and second university levels, 61 teachers of higher education institutions and 54 social workers and social pedagogues of the Poltava Region.

Realization of the set goal was carried out during a step-by-step study. The purpose of the first stage was to analyze "How did the modern ICT influence educational and professional activities and, in general, the participants' life?".

The result of the study is that most of the youth (school children and students) could not live without a smartphone (90.2 % and 85.2 % respectively), without the Internet (84.7 % and 77.6 %), without communicating in social networks (39.5 % and 54.8 %) and communicators (75.3 % and 68.8 %), without a mobile phone (31.4 % and 45.5 %). Among adults (teachers and other professionals), 100 % of respondents use mobile and telephone communications of various levels (stationary and mobile phones, smartphones) in their professional activities, 60 % are members of groups in so-called communicators (for example, Viber, WhatsApp etc.), 50.3 % as tutors, and 41.8 % as parents.

The study also focused on social life and student status within modern digital society. According to the results, the formula of success of Poltava students is rather pragmatic – the first three places are occupied by: self-actualization (58.2 % and 63.5 % respectively), prosperity (67.5 % and 55.4 %), and career (60.8 % and 47.7 %). Besides, 27.8 % of students, 50.8 % of schoolchildren and 60.1 % of students (more likely to be satisfied) are satisfied with learning. At the same time, 43.7 % of schoolchildren and 35.6 % of students are fully satisfied with leisure content. 65.4 % of schoolchildren and 74.3% of students spend their free time on the Internet; 50.5 % of schoolchildren and 85.8 % of students use the Internet while preparing for lessons and practical classes in various disciplines.

Separately, we were interested in "How long during the day do you use technical means for learning (professional activity), entertainment and communication?" The answer is

presented as a diagram (see Fig. 1).

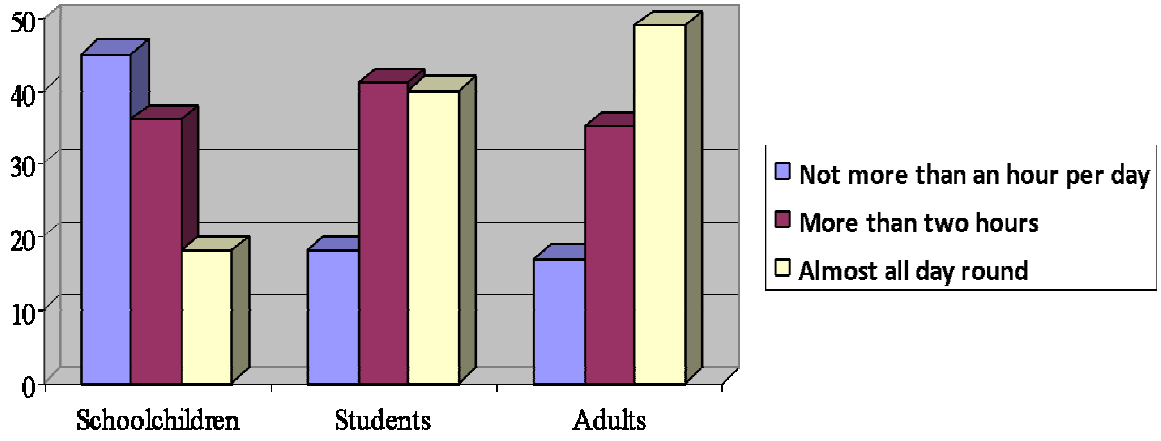

Fig. 1. Duration of technical equipment usage (per day) for learning / professional activity, entertainment and communication

Consequently, the results of these studies confirm not only the tendency of increasing the time that young people and adults spend in the virtual space, but also changes in the "quality" of activity, that is, the purpose with which the new technologies are predominantly used.

Today for most research participants, computer, electronic, mobile and other information and communication technology has become a necessary working tool, an intermediary in the communication process, a leader in virtual reality. Most of them, even without dependence on ICT realization , will undoubtedly experience significant annoyance in case of the system failure, which makes it impossible for them to immediately search for the desired information, write a letter, communicate with the necessary or desirable person, receive e-mails, etc. Thus, the virtual reality (cyber reality [21]) becomes for them a new peculiar life space with specific features of the communicative process. That is, the virtual environment (cyberspace) – along with natural, spatial-geographical, social, cultural, landscape-architectural, etc. – plays a significant role both in the daily life and in professional activities of a modern person [22, 249].

The second stage of the empirical study was devoted to the MOOCs functions in the training of university students and secondary schools graduates, as well as in the professional activities of lecturers and specialists of sociological specialties in Ukraine.

Since 2012, information about MOOCs has been provided by Western counties' sources in rather strong metaphorical images. At the end of 2012, the newspaper *New York Times* published an article with an explicit headline "MOOC-revolution" about the persistent expectations of "the historical transformation of higher education on MOOCs basis". The *Economist* also supported this trend by publishing an article with an encouraging title "Free Education. Acquiring new lessons". These publications attracted readers' attention with the following content: "MOOC is more than good university lectures available through the Internet. True innovation lies in the scientists' consolidation who speak interactive lessons language ... MOOCs enrich education with students from all over the world, especially those students who lack financial resources and are dissatisfied with learning universities offer in their countries. And for many other people, especially from poor countries, online education broadly opens the door to new opportunities" [23].

According to the answers of first-year students of sociological specialties to the question "Do you know what massive open online courses are?" 90 % of them did not even hear about such courses at all, and 10 % heard something, but do not know what that is.

Approximately the same situation is observed with students of the second and third years. This is due to the fact that first-year students have other problems and interests, namely: adaptation to a new learning and social environment. Undergraduate and graduate students of these specialties have an idea of MOOCs after studying the selective discipline "ICT Usage in social teacher / worker activity".

The study showed that schoolchildren were more knowledgeable about MOOC (23 %). This is due to the promotion of MOOC "Preparing for ZNO", presented on the platform Prometheus by three courses "Ukrainian language and literature", "History of Ukraine" and "Mathematics". Besides, on the Prometheus platform MOOC "Scratch Algorithms and Projects" is presented for schools this year. The course fully corresponds to the school computer science program for grade 5 children and provides programming with bright video, interactive tasks and interesting projects. The course can be used to study the programming online, but first and foremost, it is intended to introduce schools into the educational process in order to provide blended learning.

University academic staff was most knowledgeable about MOOCs (44 %). This is due to their active participation in various scientific conferences and use of ICT in distance education, knowledge assessment and other types of work with students. Other professionals of sociological specialties have an idea of the MOOCs (25 %). They are mainly specialists working in public institutions, who are always involved in grants programs competitions and should increase their competitiveness in the labour market.

The second question "Have you ever tried to learn within MOOCs? Or do you plan to try in the near future?" received the following answers: 9 % of schoolchildren tried to learn and 5 % are learning now. The reason for a small number of MOOC participants among schoolchildren is that they are accustomed to constant monitoring by parents and teachers, but MOOCs require self-organization and discipline. In addition, children, who are entirely dependent on their parents, trust more proven tutors, rather than virtual teachers. Among the students of sociological specialties, 15% have already learned online or tried to. The reason for a small percentage of students involved in MOOCs is due to poor technical support (not always the Internet available or there is weak Wi-Fi). Higher school teachers (22 %) are the most active members of MOOCs. As in the previous question, the most active members of MOOCs among graduates of sociological specialties are specialists working in non-governmental institutions, since employers are interested in updating their competencies. As we can see, the motivation for online courses is a very important issue. As our research showed, most adults, especially students, spend most of their time using mobile applications (≈ 83 %), so e-learning, in our opinion, should become more mobile and personal. Therefore, one of the main problems of MOOCs widespread dissemination is the lack of a clear understanding by participants of the differences and opportunities of online education compared with the traditional learning in classrooms.

An analysis of MOOCs schemes for organizing the learning process on various platforms, now increasingly referred to as electronic universities, has shown that they all have common features, namely:

1. Students select online courses and register for their study. The students' educational activity consists in lectures, tasks, testing, communication at the forums on discussion of tasks and problems. In addition, students can complete the certification in order to obtain a certificate.

2. Theoretical material on MOOCs is represented by lectures, divided into parts for 10-15 minutes. Each part, as a rule, ends with a test, a quiz or a control question to check the understanding of the processed material. The explanation of the theoretical material is carried out with the help of a graphic tablet, that is, the teacher gives information with the simultaneous presentation of explanatory charts, diagrams and drawings. Additional

theoretical material for lectures is provided in interactive links to the Internet source.

3. Practices are represented by various types of interactive tasks, as well as by remote virtual laboratories. For the Humanities, on-line discussions in forums are organized as one of the options for tasks. The forum is, above all, a place where students can ask questions and help each other; express their thoughts and receive support and encouragement; find additional information; join the group to study the course, organize real meetings for communication.

4. A lot of attention is paid to the students cooperation, which is manifested in different ways: first, in the form of a "questions and answers" forum, and secondly, in the form of a training online and off-line network, and thirdly, group lectures review and tasks performing. The cooperation rules are presented on the site of each MOOC. The key to understanding co-operation is to use it for quality of education improvement, rather than simply getting an answer without understanding the problem.

5. The main efforts of MOOCs developers are aimed at automating the learning results verification, since the teacher cannot check several thousand tasks. In order to control the students' activities, an independent and cross-cutting assessment of students by each other is used. Only a final assessment is carried out by faculty in a traditional format in specially organized places where a certificate is to be issued. Intermediate control is carefully planned in the time mode and its exact execution is required.

As a result of the study, it was also found out that from 2 % to 10 % of MOOCs participants (depending on age), get acquainted with them, register for courses, view video collections and other forms of learning and training using mobile phones or tablets (3–8 %), which indicates the rapid growth of their popularity.

The next question is: "Do you consider MOOCs a complete education that could replace traditional higher education / a form of advanced training for specialists with higher education?" Students were asked only the first part of the question. The generalized answer was as follows: "After successful passing of MOOC, the participant receives the corresponding certificate, but in Ukraine, a state diploma is required for employment". Therefore, all participants consider MOOCs not as an alternative to higher education, but as an additional or auxiliary resource to deepen knowledge in the professional sphere. Qualification improvement on the basis of MOOCs is also considered by certified specialists as a form of self-education. We support L. F. Panchenko's proposal in the article "Massive open online course as an alternative form of advanced training for higher education teacher" [24]. She suggests official recognition of the MOOCs certificates received by teachers as a result of their qualification upgrading. But being experienced in preparing the documents on licensing and accreditation of a specialty (educational program), we can say that, until this issue is resolved by the Ministry of Education and Science of Ukraine, higher education institutions will be able to consider MOOC only as an addition to the traditional, normatively established, teacher-conducted training.

Also, we drew the attention of teachers and students to the fact that MOOCs have already had specialization. Under "specialization" they understand the sequence of interrelated courses in the subject field that allow the student to deeply study the subject, and then apply their knowledge in practice within a special project [25, 91]. Such specialties could really serve as an alternative to upgrading the qualification level with a new or additional specialization for teachers and other professionals who already obtained higher education. Moreover, among the features of specialization it is necessary to note the direction towards commercialization [25, 93].

Another problem worrying teachers, who participated in the study, is the inadequate investigation of such MOOCs' characteristic as the risks and costs associated with their development and implementation. MOOCs creation is a complex process that requires a high

cost of time and qualified resources. Higher education institutions which plan to develop such courses and attract their teachers should take into account that on average, the creation of a video-lecture takes 1 week, as well as templates for video – 1 month [26, 50]. Therefore, policies Internet network for MOOCs teaching should be developed for higher education institutions. Now, this process is possible only due to the enthusiasm of the teachers. In order to really reach the masses in online courses, it is necessary to attract marketing professionals. In addition, MOOCs require powerful equipment, a high level of information and communication competence of developers, encouragement from university leadership or grant support.

4. CONCLUSIONS AND PERSPECTIVES FOR FURTHER STUDIES

As we can see, due to the rapid dissemination of information and communication technologies, MOOC promotes the interactivization of pedagogy, as well as helps to conceptualize and logically build educational material. Despite the fact that MOOCs are at an early stage of development, many analysts regard them as an innovative and inexpensive way to spread knowledge among the most massive audience. In particular, L. Yuan and S. Powell, in their studies, consider the introduction of MOOCs in the context of growing tendency towards openness in education. The authors describe them as a means of "expanding access to higher education for all" and creating a space for "online teaching and learning experiments", which enhances the reputation of higher education institutions and their impact. Scientists point out that MOOCs are, in definite sense, labour-intensive innovations within a complex educational system and therefore cannot replace existing traditional universities [27, 8–9]. The "Massive open online courses: higher education's digital moment?" (2013) report, prepared by the United Kingdom Association of Universities "Universities UK," refers to MOOC as a catalyst for general-sector changes: "... the transition to the digital format that is observed in the media can be caused in the field of higher education due to the growth of MOOCs. That is why the higher education institutions should review their long-term strategies, taking into account these changes that will affect the quality of education, diversification of the applicants' recruitment, transfer of knowledge, academic support, accreditation etc." [12, 2–3].

At the same time, some experts see some problems in this idea, in particular, related to conceptual approaches to knowledge development and dissemination. Chris Olds, a professor of the Wisconsin-Madison University, notes: "...MOOC is undoubtedly the post-national platform for higher education. Their names do not bind to a certain area. The founders of American MOOCs, such as Coursera, EdX, Udacity, are immigrants from around the world. These platforms, having an international focus, in many aspects were developed on the basis of a specific American context" [19, 9]. Another American researcher on globalization and the higher education internationalization P. Altbach observes that "... globalization has already led to increased influence of academic centres located in developed economies, and the development of MOOCs will intensify this process by expanding access to existing knowledge bases using the latest technologies" [28, 5]. The scientist confirms his position by the following arguments: firstly, MOOCs are initiated by American professors and scholars; secondly, most online courses are designed and taught at American universities or other Western countries; thirdly, the providers of these courses are situated in high-tech countries; fourthly, the majority of private and state-owned companies that contribute financial and intellectual capital to MOOCs development, are of American descent; fifthly, the content of most courses is based on American education approaches and American pedagogical model. The list of recommended literature, as a rule, consists of works by American, British, Canadian scholars. All this, in the opinion of P. Altbach, looks like "voluntary neo-

colonialism" [28, 6], which will have serious consequences for the education and science of developing countries, since easy and inexpensive access to American MOOCs can significantly inhibit the development of academic culture and online courses designed specifically for this audience.

Researchers note the strengthening of Western academic culture influence in the field of education through MOOCs support as the available methodological guidelines, pedagogical traditions and practices of different countries, which determine the approaches to the development of curricula are not always reflected in the educational formats of MOOC providers. The English language as the language of international communication, also contributes to the further dissemination of methodological and intellectual approaches to the academic culture of the English-speaking part of the world, which is particularly noticeable in the social sciences and the Humanities. And, consequently, the combination of belonging to a sustainable academic culture and the geographic location of the main MOOCs developers in the places where it is most concentrated will contribute to the strengthening of the academic system of the United States, Canada, the United Kingdom, Australia, making it difficult to develop potential alternatives [1, 75].

Summarizing the results of the study on defining MOOCs' functions in Ukrainian realities, we emphasize the possibilities of learning openness, individualization and interactivity as well as learning content enrichment. Such approaches are in accordance with the principles of digital humanistic pedagogy, the actual task of which is the study of "the problems of creating and studying the integral pedagogical reality, combining real and virtual spaces and an example of the interaction of biological and technological components to ensure the high quality of learning" [9, 22]. In our opinion, it is worth quoting O. Molchanovsky, a teacher of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" and a co-founder of MOOCs in Ukraine: "If a person wants to change a specialty, then a MOOC is the first opportunity to understand what's happening in another industry. Online education is not a panacea. But MOOCs are textbooks for the future. You also do not say that the textbook will teach you everything, it's just an instrument. Online education is a great opportunity to integrate the best educational patterns into traditional education" [29]. MOOCs are needed not only for students but also for faculty. "If a person is not conservative, they are ready to move forward, they may be inspired by new techniques and take something interesting from other teachers" [29]. Today, MOOC main goal is to integrate this mechanism into traditional education. This is "blended learning" or "flipped classes". Students look at the materials in advance – then a teacher has more time to answer their questions. Teacher can thus hear students [29].

In general, the study showed that the main discussions are developing around the five main problems of MOOCs implementation, namely: 1) the existence of two different MOOCs types; 2) the role of a teacher in MOOCs; 3) participation of students in MOOCs; 4) understanding and using the concept "mass"; 5) the boundary between the openness of the MOOCs and control over them.

Summarizing the analyzed material, we can conclude that during the first decade of the 21st century, distance education has gained further development and, thanks to technological advances in the field of information and communication, a project of higher education curricula transnational mobility has appeared in the form of "Massive Open On-line Courses". These courses are intensively developed and implemented, mainly on special educational platforms created by leading American universities. Popularity and unprecedented opportunities for reaching the student audience have prompted international organizations and their departments in the field of education to initiate global forums to discuss the urgent economic, social, technological, psychological and pedagogical issues that arose around MOOC, as well as to adopt regulatory documents to ensure the quality of such educational

services providing. Further research should be aimed at the study of MOOCs effective use in Ukrainian educational reality.

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ЗАРУБІЖНИЙ ДОСВІД ТА УКРАЇНСЬКІ РЕАЛІЇ ВИКОРИСТАННЯ МАСОВИХ ВІДКРИТИХ ОНЛАЙН КУРСІВ У МІЖНАРОДНОМУ ОСВІТНЬОМУ ПРОСТОРІ

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Анотація. У статті розглянуто проблему впливу інформаційно-комунікаційних технологій на розвиток вищої освіти. Визначено особливості й динаміку поширення МВОК в міжнародному освітньому просторі, проаналізовано досвід використання МВОК в умовах транснаціональної освіти, досліджено функції МВОК в українських освітніх реаліях. У процесі дослідження застосовувалися такі методи: контент-аналіз наукової літератури для з'ясування сутності основних категорій дослідження; нетнографія веб-сайтів онлайн-курсів для вивчення їх специфіки; анкетування, статистична обробка та графічне представлення результатів дослідження функцій МВОК у вітчизняних навчальних практиках. Уточнено

сутність поняття «МВОК», розкрито концепцію їхньої побудови, особливості технологічного функціонування. Проаналізовано історію запровадження і розвитку МВОК у зарубіжних країнах (США, Австралія, Японія, країни Європи) та Україні. Виникнення і поширення МВОК пов'язане з розвитком цифрової гуманістики та утвердженням у міжнародному освітньому просторі цифрової гуманістичної педагогіки. Охарактеризовано перебіг та результати дослідження, що визначає функції, які сьогодні МВОК виконують у вітчизняних навчальних практиках, а саме: забезпечення відкритості, збагачення змісту навчання, його індивідуалізації та інтерактивізації. Встановлено п'ять основних проблем запровадження МВОК: 1) наявність двох різних типів МВОК; 2) роль викладача у роботі МВОК; 3) участь слухачів у МВОК; 4) розуміння та використання «масовості» МВОК; 5) відстеження межі між відкритістю МВОК та контролем за ними. Популярність та безпрецедентні можливості охоплення студентської аудиторії спонукало міжнародні організації та їхні департаменти в галузі освіти ініціювати глобальні форуми з обговорення нагальних економічних, соціальних, технологічних та психолого-педагогічних проблем, що виникли в процесі запровадження МВОК, а також ухвалювати регулятивні документи щодо забезпечення якості надання таких освітніх послуг.

Ключові слова: інформаційно-комунікаційні технології; транснаціональна вища освіта; відкриті освітні ресурси; масовий відкритий онлайн-курс; зарубіжний досвід; українські реалії.

ЗАРУБЕЖНЫЙ ОПЫТ И УКРАИНСКИЕ РЕАЛИИ ИСПОЛЬЗОВАНИЯ МАССОВЫХ ОТКРЫТЫХ ОНЛАЙН КУРСОВ В МЕЖДУНАРОДНОМ ОБРАЗОВАТЕЛЬНОМ ПРОСТРАНСТВЕ

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Аннотация. В статье рассмотрена проблема влияния информационно-коммуникационных технологий на развитие высшего образования. Определены особенности и динамика распространения МООК в международном образовательном пространстве, проанализирован опыт использования МООК в условиях транснационального образования, исследованы функции МООК в украинских образовательных реалиях. В процессе исследования применялись следующие методы: контент-анализ научной литературы для выяснения сущности основных категорий исследования; нетнография веб-сайтов онлайн-

курсов для изучения их специфики; анкетирование, статистическая обработка и графическое представление результатов исследования функций МООК в отечественных учебных практиках. Уточнена сущность понятия «МООК», раскрыта концепция их построения, особенности технологического функционирования. Проанализирована история введения и развития МООК в зарубежных странах (США, Австралия, Япония, страны Европы) и Украины. Возникновение и распространение МООК связано с развитием цифровой гуманистики и утверждением в международном образовательном пространстве цифровой гуманистической педагогики. Охарактеризованы ход и результаты исследования, определяющее функции, которые МООК выполняют сегодня в отечественных учебных практиках, а именно: обеспечение открытости, обогащение содержания обучения, его индивидуализации и интерактивизации. Установлено пять основных проблем внедрения МООК: 1) наличие двух различных типов МООК; 2) роль преподавателя в работе МООК; 3) участие слушателей в МООК; 4) понимание и использование «массовости» МООК; 5) отслеживание границы между открытостью МООК и контролем за ними. Популярность и беспрецедентные возможности охвата студенческой аудитории побудило международные организации и их департаменты в области образования инициировать глобальные форумы по обсуждению насущных экономических, социальных, технологических и психолого-педагогических проблем, возникших в процессе внедрения МООК, а также принимать регулятивные документы по обеспечению качества предоставления таких образовательных услуг.

Ключевые слова: информационно-коммуникационные технологии; транснациональное высшее образование; открытые образовательные ресурсы; массовый открытый он-лайн курс; зарубежный опыт; украинские реалии.

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