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METHODOLOGY OF MOOC CREATION ON WIKI-PORTAL

Abstract. The use of information and communication technologies contributes to the development and reorganization of the information environment of modern society, in particular, the educational sphere. The modern education system is in a stage of global changes worldwide, it focuses on the all-round development of the person, prepares for life in open information space, provides training during the life, formation of tolerant worldview. There is an interaction of various social, economic and technical developments in education in a global context. Open education plays an important role in the authorization to education for everybody and in overcoming the difficulties created by constantly changing circumstances in education. Therefore many modern types of research are focused on the identification of features of the use of mass open online courses (MOOC). It is one of the current trends in the field of open distance learning. This article investigates the most important questions concerning MOOC. The international experience of courses development and training at the MOOC platforms have been analyzed. Wiki-portal which allows creating an open online course, participation in which can be accepted by a large number of users was chosen among various platforms for the creation of mass open online courses by Borys Grinchenko Kyiv University.

Keywords: cMOOC; xMOOC; electronic educational environment of the university; Wiki-portal; wiki-technology; web page; coursera; udacity

Introduction. Due to the globalization of education, there is a problem of creation and development of new effective educational models. Therefore the strategy of the majority of the higher educational institutions is to overcome the boundaries of its closed self-sufficiency and uniqueness for the conquest and development of not only its national educational space but also international. The aspiration of educational institutions to establish themselves in the world educational space is connected not only with the increase of the international competitiveness of universities, high competition in the market of educational services but also with the reaction to true globalization in the modern education system.

One of the leading trends in the contemporary educational paradigm in the world is to create the most accessible condition for education for everyone. Today MOOC (Massive Open Online Course) is one of the directions of remote education most of which dynamically develops. The courses are offered by the advanced world universities, they are read by the experts and researchers, best in their area, and the audience of the leading educational platforms is estimated in millions of users.

Analysis of recent studies and publications. Works of many domestic and foreign scientists describes problems of development of distance learning: N. Davies, L. Honcharenko, E. Taylor dealt with the issues of formation of polycultural competence; M. Zhaldak, J. Levin, S. Aseto, K. Svan, S. Lytvynova conducted researches on efficiency of activity of virtual educational communities; R. Mason, I. Tavgen, D. Kigan were engaged in development of typology of programs of distance learning; M. Thorp, B. Khan, D. Sheyk, D. Garrison investigated features of remote education and the use of effective strategy, etc.

The article's goal. A research of a phenomenon of modern education - MOOC, consideration of the main MOOC projects and their possible organization with the use of Wiki technologies.

One of the most important components of the educational environment is the substantial component which can be presented by open online training courses. Due to the openness of training materials, their quality is provided.

Different ideologies have led to the fact that MOOC is divided into two various pedagogical directions: connected MOOC (cMOOC) which are carried out on technology to connectivism are more focused on teachers and scientists; MOOC based on contents (xMOOC) which follow behavioristic approach. In general, teachers still argue on a ratio "process of training against the content of training", and they haven't come to a consensus (Varchenko-Trotsenko, 2015, pp. 13-14). Comparison of cMOOC and xMOOC are presented in the table 1.

Table 1.
Comparison of cMOOC and xMOOC

cMOOC	xMOOC
Knowledge is created and generated	Knowledge is duplicated
Art, creativity	More traditional approach (video lectures, questionnaires, tests)
Isn't financed	Is well financed
Private initiative of certain members of pedagogical community	It is supported by the prestigious universities
Large volume of unstructured information	Information is accurately structured
Lack of control	Control existence
Team of volunteers	Team of employees

MOOC points up coeducation. Courses are focused on the group of supporters who are rather free from university restrictions. cMOOC provides the access to platforms that allow you to go beyond the traditional audience (Smyrnova-Trybulska, Morze, Varchenko-Trotsenko, 2015).

On the other hand, educational model xMOOC is, in fact, expansion of the pedagogical models practiced in a higher education institution. This model means such methods of training as video presentations, questionnaires, and testings, etc. The typical sample of xMOOC is Coursera ("Coursera", 2018) and Udacity ("Udacity", 2018). Further division of xMOOC into two models can be defined as commercial and noncommercial models which have the different purposes. Created commercial organizations that the universities could offer services xMOOC and get profit from it. Scientists criticize xMOOC for applying a knowledge transfer model; in fact, this is only a technically improved traditional education based on the teaching by a regular teacher (Banks, 2005). But such systems offer the individualized approach which allows students to find alternative "routes" in training. However, they do not provide social learning experience, they do not deal with anyone personally. Coursera leaves the organization of courses for specific institutions, though within certain rules and regulations.

For comparison, cMOOC opens up space for non-traditional forms of learning and an approach based on the needs of trainees, in which students learn from each other. Online communities solve all problems by the creation of networks which extend knowledge. For example, such institutions as the Massachusetts Institute of Technology and the University of Edinburgh use MOOC as the experimental enterprise that will allow participating in the development of new models of training, to enjoy support and experience of other institutions (Morze, Sekret, 2017) .

Main MOOC projects:

edX (<https://www.edX.org/>) is the noncommercial MOOC project created by Massachusetts Institute of Technology and Harvard University. Now the project includes a large number of courses among which there are chemistry, informatics, electronics, medicine, etc. Students who will achieve special success in objects can pay the small sum and receive the certificate confirming the passing of a course (“edX”, 2018).

Coursera (<https://www.coursera.org/>) is a business company. Coursera offers courses in informatics, mathematics, business, humanities, medicine, engineering. Some universities provide the certificate of the passing the course for a small payment, it also includes additional objects and job evaluation by the teacher (“Coursera”, 2018).

P2Pu (<https://p2pu.org/en/>) was started in 2009. P2Pu has some lines of MOOC but is generally focused on giving the chance to any person to study or teach online. The process of improvement and perfection of the quality of courses happens according to students and teachers. Courses are free and don't assume issue of the certificate. However, the school of web-design P2Pu has developed the system of assessment to bring a passion element in the training process (“P2Pu”, 2018).

UDACITY (<https://www.udacity.com/>) is one more commercial project based by Sebastian Trunov, David Stephens, and Mike Sokolskyi. Offers courses in informatics, mathematics, natural sciences, programming, and business. Upon course termination, students receive course attainment certificate in which the received assessment is specified. The certificate is signed by teachers. The payment isn't chargeable. Some universities have begun to offer credit transfer for students of Udacity who wants to pass the examination in the Pearson center (“Udacity”, 2018).

Khan Academy (<https://www.khanacademy.org/>) is one more known platform for online education, is the non-profit educational organization which is financed by Bill & Melinda Gates fund and Google. The Khan Academy was founded in 2008 by Salman Khan. The organization offers several thousand video lectures on a number of subjects, they are accompanied by various tasks, which are assessed on a regular basis (“Khan Academy”, 2018).

Udemy (<https://www.udemy.com/>) - the project founded in 2010. Udemy offers more than 5000 courses of which 1500 are free. The average price varies from 20 to 200 dollars (“Udemy”, 2018).

Prometheus (<https://prometheus.org.ua/>) - the Ukrainian public project of mass open online courses. The main objective of the project is to provide free online access to university-level courses for all interested persons, as well as the opportunity to publish and distribute such courses to leading teachers, universities and companies. Besides, Prometheus provides access to online courses in preparation for the external independent estimation (“Prometheus”, 2018).

EdEra (<https://www.ed-era.com/>) - the Ukrainian educational project of online education which develops online courses, manuals, and educational special projects. All training materials on the website ed-era.com are completely free (“EdEra”, 2018).

While edX offers only courses from Harvard and the Massachusetts Institute of Technology, Coursera gives access to the platform which any university can use, and

Udacity has the own schedule. Other projects of open education, such as Udemy, P2Pu and Khan Academy exist already quite long time and give opportunities to any person to study out of a traditional framework of the universities.

Many students of higher educational institutions are interested in MOOC. Such choice of students is influenced by several factors; they include an opportunity in the future to derive financial benefit, personal and professional development, difficult, but interesting tasks, pleasure from lectures. The research conducted by the staff of Duke University shows that students choose MOOC for several reasons (Belanger, Thornton, 2013, pp. 15-18):

- obtaining comprehensive knowledge of the studied subject;
- pleasure from education, social experience;
- convenience;
- new experience in online education.

A survey of students of Master's degree of Pedagogical Institute, Institute of Philology and Faculty of Information Technology and Management from Borys Grinchenko Kyiv University was conducted in autumn 2017. About 100 participants took part in it. The results of the survey showed that students are ready to participate in MOOC X (fig.1):

Are you ready to study at MOOC for additional knowledge outside of the university?

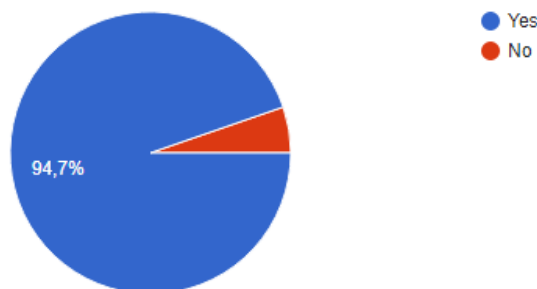


Fig. 1. Answers of respondents to questions about readiness to participate in MOOC

Students also marked the elements of study that they thought appropriate to use for the organization of an optimal MOOC (Table 2):

Table 2.
Respondents' answers to questions about the types of materials in MOOC

Theoretical materials in the form of text	26%
Open theoretical materials which can be filled together (wiki)	41%
Video lessons	74%
Presentations	53%
Structured materials in the form of knowledge maps	35%
Links to helpful resources	56%
Forums	29%
Discussion of problem issues	47%
Practical tasks	50%
Maintenance of e-portfolio for reflection of your own learning	44%
Blog keeping	9%
Forms for self-evaluation	47%
Testing	79%
Design methodology	29%
Work in groups	18%
Other	0

We can draw conclusions that theoretical materials in such course can be in the form of video lessons, "wiki-materials" and useful links. Control can be in the form of testing and form estimation. Also, it has been investigated what students want to receive as a result of MOOC passing (fig. 2.):

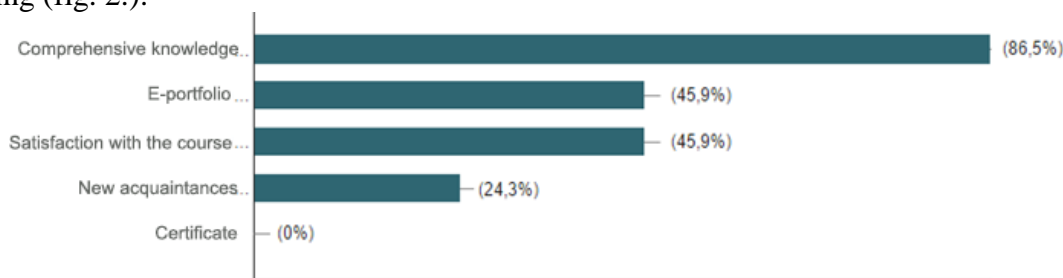


Fig. 2. Answers of respondents to questions about expected results from MOOC

On the basis of the research results, a part of the course for students was created "I am in the information environment of the university". Wiki portal of Borys Grinchenko Kyiv University became a basis for the creation of a course (Borys Grinchenko Kyiv University, 2017, pp. 117-171).

Wiki portal is created as the platform intended for realization of the educational technologies focused on the vigorous activity of students and teachers, all participants of the educational process (Morze, Varchenko-Trotsenko, 2014, p. 39). Wiki portal functions on wiki technology on Mediawiki content management system. Using wiki-technology, it is possible to place various educational web resources, to exchange opinions, to reuse the placed web resources on the basis of a contribution of many participants without any efforts.

Grinchenko University used this technology thanks to its main feature which is that any person can be registered and write the article according to certain requirements. Other registered users can finish it and make changes. The history of the creation of each article saves. It allows a large number of users to work on one e-resource, to supplement with articles, to discuss, insert images, polls on video, audio, cards of knowledge and other resources, so to carry out electronic cooperation for the creation of a joint resource (Morze, Varchenko-Trotsenko, 2015, pp. 119-121).

This technology will create an open course, in which a large number of users can take part, which corresponds to the MOOC ideology. The open course "I am in the information environment of the university" (fig. 3) is one of Wiki portal projects and is a part of a course "I am a student" the purpose of which is a help to students of all specialties enter the new university environment for them, to overcome the organizational difficulties of the first year of study, reveal their best qualities and be a leader.

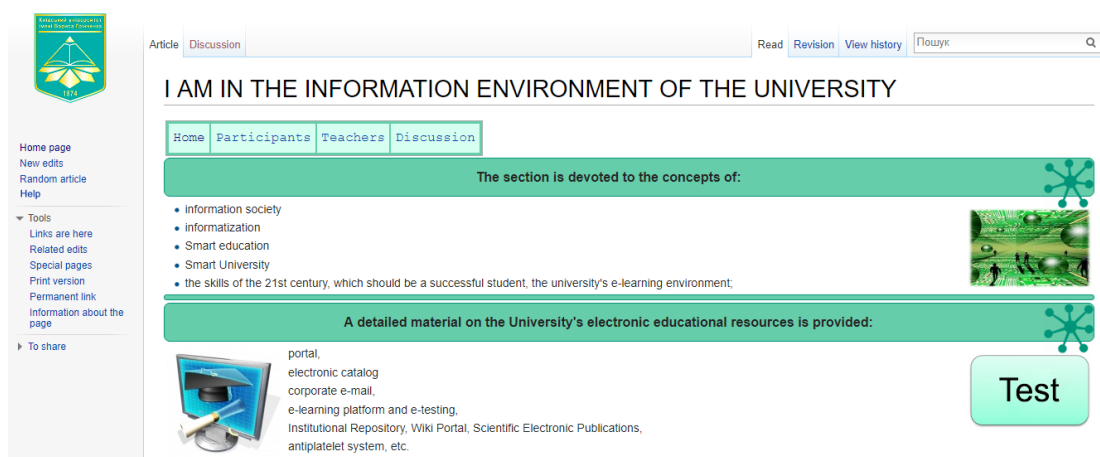


Fig. 3. Example of MOOC "I am in the information environment of the university"

In this course, students can get acquainted with the theory, find it complement, take part in the discussion, find a large number of useful links, and complete practical tasks (Fig. 4-7).

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 - 2.1 Internet directories
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Tips for mastering the methods of searching for the necessary information

Information Search Systems

Use various information search systems (Google, META, Yandex, Rambler, Yahoo! and others). We recommend advising Google, as well as special research systems, on the following:

Google Academy - <http://scholar.google.com/>

Scirus - <http://www.scirus.com/srsapp/>

Flexum - <http://science.flexum.ru/>

Fig. 4. Theoretical materials of the course

Internet directories

Electronic catalogs of Ukraine	http://www.e-catalog.name/
National Library of Ukraine named after V.I. Vernadsky	http://www.nbuv.gov.ua/
Institutional repository of Borys Grinchenko CU	http://elibrary.kubg.edu.ua/
Electronic catalog of the Parliamentary Library of Ukraine	http://ukrlibrary.org/book.htm
Electronic library of Ukraine	http://www.elibukr.org/

Take note!

We recommend reading

1. At the beginning of the decade, smart systems. - Access mode. - URL: <http://www.ibm.com/smarterplanet/ua/uk/overview/visions/index.html>
2. ICT in vocational education / UNESCO. Analytical note - Access mode. - URL: http://iite.unesco.org/files/policy_briefs/pdf/en/icts_in_tvset.pdf
3. Tikhomirov VP The world is on the path to Smart Education. - Access mode. - URL: http://www.ido.ru/ido_media/ido_press/articles/?content_id=1581&news_id=1206
4. Wikipedia Free Encyclopedia [Electronic resource] - Access mode: <http://uk.wikipedia.org>.
5. Tikhomirova N.V. Global strategy for smart-society development. MESI on the road to Smart-University / Smart Education, [Electronic resource] <http://smartmesi.blogspot.com/2012/03/smart-smart.html>
6. Nancy J. Informal Learning - Form and Content - Access Mode. - URL: <http://www.smart-edu.com/stati-korporativnoe-obuchenie/neformalnoe-obuchenie.html>
7. General Mills Interactivity, creativity, strategy - these are the keys to company success - Access Mode. - URL: <http://www.smart-edu.com/stati-korporativnoe-obuchenie/prekrasnoe-novoe-obuchenie.html>
8. Measuring the Information Society 2012 / Committed to connecting the world / [Electronic resource] - Access mode: http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ICTO-2012-SUM-PDF-R.pdf
9. Open Educational Resources [Accessory] - Access Mode: <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources>
10. Bob Mosher. Five myths about non-formal learning. [Electronic resource]. - Access mode: <http://www.smart-edu.com/stati-korporativnoe-obuchenie/pyat-mifov-o-neformalnom-obuchenii.html>

Fig. 5. Useful links

What course I was a student was the most interesting? Get down of everything. ALL!!! **What did you learn?** How to improve yourself. **What are your suggestions for improvement?** Free sweets - [Lilia Varchenko](#)

What course I was a student was the most interesting? Studying the history of my university. **What did you learn?** I learned what to do to become a true leader of my life. **What are your suggestions for improvement?** Improve yourself and your skills every day! - [Diana Roy](#)

What course I was a student was the most interesting? Biography of Boris Grinchenko and history of university development. **What did you learn?** How to be a successful student. **What are your suggestions for improvement?** Do not waste time in vain, but improve yourself and your skills. - [Sirko Elena-Olga Tarasivna](#)

What course I was a student was the most interesting? Study of the new university and about the biography of Boris Grinchenko **What did you learn?** What should be the student, what skills and knowledge he must possess in order to successfully study at the university. **What are your suggestions for improvement?** Work for yourself every day, develop your professional and social skills! - [Mikhailenko Olga](#)

What course I was a student was the most interesting? Work on the Wiki portal, and generally write this comment. Finally, I needed knowledge of Computer Science. **What did you learn?** I learned a lot about myself. For example, I am able to leave a comment here. **What are your suggestions for improvement?** Nothing comes to mind. - [Tovkun Miroslav Aleksandrovich](#)

Fig. 6. Discussion

Complete the task

Task 1

1. Explore the structure of the university's departments with the site and find the schedule of creative studios for students.
2. Find out which page contains information about free Wi-Fi access and try to connect to the network from your portable devices.
3. In the section For **students**, look for the order "About approval of the order of appointment and payment of scholarships" and determine the amount of scholarship you receive, studying perfectly.
4. Answer the questionnaire that is posted on the **University** portal in the **Students** section .
5. Find the section **on the University** mission statement and values **of the University** , think, discuss with your classmates, parents and friends.
6. On the page of the **Institute** you are studying, find the schedule for your group, the contact number and the study room's room number.
7. On the site's library page, find the time schedule for the library department in which you will be comfortable serving.
8. On the portal portal of the **University**, find out what needs are used for charitable contributions.
9. On the **University** portal page, find the Subscribe to news menu and subscribe to the newsletter of the selected topic.
10. Determine the number of videos on the **University** channel that are hosted on **Youtube** .

Task 2

1. Using the electronic catalog of the library of the University, check if there is a manual "I am a student" in it.
2. Determine the number of units of educational and methodological literature in the selected profile, which is available in the electronic (internal) repository of the **University** .
3. Find in the Institutional Repository the publications of the teachers of the institute in which you study. Determine their number, group them by subject.
4. Establish the number of scientific publications of the students of the **Institute** , in which you study, in the e-journal "Scientific developments of graduate students ".

Fig. 7. Practical tasks

As a result of this course, students can keep the materials on the personal page, estimate themselves in an estimation form, gain comprehensive knowledge of the information environment of the university.

The technique of MOOC creation with the use of wiki-technology: definition by the teacher of the purpose of creation of a course, the main maintenance of training materials and types of resources with the use of wiki-technology which will be used - types of training materials and practical tasks. According to certain practical tasks, the corresponding categories and reference materials for work of students are created. The corresponding templates are developed for assessment of educational achievements of students and ways of their use for participants of educational process are specified. The check of work of students is carried out by acquaintance with articles and pages of discussions which have been created or edited by participants of groups. The contribution of each user is defined by the viewing of a history of changes and comparison of versions of articles.

Conclusions. During active development and introduction to all spheres of life of information and communication technologies especially in education, there is a large number of scenarios of the organization of effective teaching and educational process not only within the universities but also beyond their limits. Education receives openness and availability, the mass open online courses allowing to acquire new comprehensive knowledge free of charge and in a convenient form are more and more actively used. Experience of development and deployment of distance learning in Borys Grinchenko Kyiv University gives to students not only the chance of round-the-clock access to training materials, continued support, consultations of teachers, video lecture online, virtual exercise machines, other technology solutions for ensuring effective process of training, but also translates training level on higher modern education step in higher education institution.

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Анотація. Використання інформаційно-комунікаційних технологій сприяє розвитку та реорганізації інформаційного середовища сучасного суспільства, зокрема, сфери освіти. Сучасна система освіти перебуває у стадії глобальних змін у всьому світі, вона зосереджена на всебічному розвитку людини, готує до життя в відкритому інформаційному просторі, забезпечує навчання впродовж життя, формує толерантний світогляд. В глобальному контексті відбувається взаємодія різних соціальних, економічних та технічних розробок у сфері освіти. Відкрита освіта відіграє важливу роль у забезпеченні доступу до освіти та у подоланні труднощів, що виникають завдяки постійно мінливими обставинами у сфері освіти. Тому багато сучасних видів досліджень зосереджені на визначенні особливостей використання масових відкритих онлайн-курсів (МООС). Це одна з сучасних тенденцій у сфері відкритого дистанційного навчання. У цій статті розглянуто найбільш важливі питання, що стосуються МООС. Було проаналізовано міжнародний досвід розробки курсів та навчання на платформах МООС. Серед різних платформ для створення масових відкритих онлайн-курсів Київським університетом імені Бориса Грінченка було обрано платформу wiki, що дозволяє створити відкритий онлайн курс, участь у якому може взяти велика кількість користувачів.

Ключові слова: сМООС; xМООС; відкрите освітнє е-середовище сучасного університету; Вікі-портал; wiki-технологія; веб-сторінка; coursera; udacity