MODERN TRENDS OF VIRTUAL LEARNING ENVIRONMENT: MASSIVE OPEN ONLINE COURSE

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Abstract: This paper examines the problems associated with a virtual learning environment that facilitates the development of both personal and professional qualities of a person. Virtual environment is considered as a communicative space conducive to the advancement of information technology and enhancement of electronic communication skills and as an alternative ground for fulfilling pedagogical potential of massive open online courses. The authors in a structured manner describe the major modern trends in the global education space, in the field of education digitization, growth of distance education services and look into the associated prospects and risks with a focus on the personality development of a professional.

Keywords: massive open online course, virtual learning environment, information and communication technologies in education, scheme of informational support for youth, digital education.

1 Introduction

Modern researchers of reforms in the field of education emphasize that due to the impact of globalization, expectations of the majority of global population are levelling out (Akvazba et al., 2018). In the world of rapidly developing technologies, a traditional approach in the field of didactics is gradually overshadowed; profound changes occur in the teaching approaches at all levels of education in response to the major call of the digital age for continuity of education and lifelong learning.

One of the phenomena radically transforming the modern society is the Internet (Akvazba et al., 2019). As an object of scientific research, the Internet has grabbed attention of modern researchers, because, on the one hand, it is an indispensable and essential attribute of our society today, and on the other hand, it is a constantly changing communication medium, especially popular with the youth (Uvarov, 2008). This is clearly attested to by the following: Internet usage continues to grow day by day; Internet becomes a medium for the fulfillment of desires, a new communication space. Modern researchers point to the fact that virtual communication is beginning to prevail over real face-to-face communication (Khutorskoy, 2008). It is the immense growth of the Internet space that opened up possibilities of distance education in a new format.

A model of virtual education includes the learning environment, which means a system of distance and intramural education. Distance learning, i.e. delivery of education to students at a distance with educational materials developed and structured by educational institution, is a topic that creates relentless interest among popular and business press. In particular, MOOCs (Massive Open Online Courses), which are open online courses that allow unlimited participation, and SPOCs (Small Private Online Courses) are said to have revolutionized universities and the corporate education landscape (Kaplan & Haenlein, 2016). The use of distance technologies has expanded the boundaries of face-to-face education with remote materials and professional consultations made widely available. The main goal of virtual education is to guide a person toward their destiny and life purpose.

Teachers and heads of educational organizations should continuously be looking for ways to self-improve by embracing advanced technologies in their activities in order to make educational content relevant and effective in the years to come, and in order to fit into the contemporary global education system of a brand new design (Akvazba et al., 2017).

Pursuant to Resolution N 1642 dated 26.12.2017 On Approval of the Russian Federation State Program “Development of Education” (2017) a goal was set, by 2018, to create conditions in the Russian Federation conducive to fostering the quality of and to enhancing the opportunities for continuous education accessible for all categories of population through development in Russia of a digital learning space, and, by the end of 2025, to raise the number of educational organizations offering online courses to 11 million. This is the document that at the legislative level in the Russian Federation has spurred the growth in a number of online courses on disciplines (modules) included in the educational program, which was a response to the requirement to encourage and boost self-organized cognition, cognitive curiosity, and ability to independently plan, perform and monitor the outcomes of the learning process.

2 Literature Review

The second millennium brought to the humankind an electronic computer technology that has pervaded every aspect of our lives (Akvazba et al., 2018; Strielkowski & Chigisheva, 2019). Its advancement led to the advent of information technology that may be described as a process employing a set of means and methods for processing and transmitting primary information to obtain information of a new quality on the state of a certain object, process or phenomenon (Paschenko, 2013). Substantive is also the fact that information technology has a capacity to sustain students’ interest by original presentation of material, thereby invigorating their educational activity and holding their interest. The information technology concept is often put on a par with such a concept as computer technology: these terms are often used interchangeably as synonyms (Petukhova, 2013).

A.V. Khutorovsky (2008) believed that learning environment is vital to personal development. V.A. Yasvin asserted that learning environment is a vehicle for rendering influence on and a prerequisite to the personality development according to a predefined pattern (Paschenko, 2013). Information and communication technologies should enable effective interaction between a teacher and a student, including the learning process management (Uvarov, 2008; Soltovets et al., 2019). Virtual learning environment helps to connect many participants of the educational process, use verbal and non-verbal means of communication for better understanding and exchange of information, helps to choose a language of communication, and convey feelings and emotions, which in turn is an effective communication technology.

Virtual spaces of educational institutions and Internet resources are combined to form an open virtual learning environment - an information space for interaction between participants of the educational process enabled by information and communication technologies that include various computer tools used to manage the content of the learning environment and communication between its participants. Virtual learning environment is an intricate self-adjustable (behavior correction) and self-improving (gradual establishment of effective interconnection) communication system that serves to maintain connection between participants. A peculiar feature of this system is that it is constantly changing to maintain stability of the participants' behavior as they accrue the experience of interaction. Looking forward, education will evolve and a transition will occur from a closed education model to the open one.

Today, students get access to a virtual learning environment, which becomes an essential element of education (Mamedova, 2016), an extensive database that allows them to improve their abilities through self-directed learning by benefiting from popular webinars, video lessons and guides available in different languages of the world.

The emergence of Massive Open Online Courses (MOOC) delivered in the Internet environment paves a way towards a free

and mass access to the quality training courses without geopolitical confinement, regardless of the learner' status or health limitations.

Following the emergence of open educational resources and the Open Education Movement, the term MOOC first appeared in 2008. Since then, MOOC has become a kind of label for many newly launched online courses offered by universities, private educators and businesses (Yuan et al., 2008).

Massive Open Online Course (MOOC) is a web-based course with interactive participation and open access, one of the most effective implementation forms of distance education technologies (Guschina & Mikheeva, 2017). Over a very short time, massive online courses have rapidly spawned (Solodov et al., 2018). Today the following models have been distinguished (Lebedeva, 2005; Levin, 2001): a so-called cMOOC represents the embodied idea of Connectivism, i.e. involves finding a solution through collaboration between students and teachers, their joint work for refining and updating the presented information, thus being a sort of a learning network (the training purpose in such courses, as a rule, is defined by a student) (Gavrilov, 2014); xMOOC has a clear rigid structure and, as a rule, is meant to stimulate independent learning (a student masters the course following a trajectory predetermined by a teacher), has a clear design and a precise timetable, certain checkpoints to be reached at a specific time (the training purpose is defined by a teacher) (Karasik et al., 2013); task-based MOOC is a course comprised of the tasks that may be approached in various ways and which solutions may take different forms, tasks can be done by trainees on their own or collaboratively with other students. A student is offered either to choose a method for solving a task or to enjoy an absolute freedom of action that may flourish into the entire project (Sakoyan, 2013). This is an integrated MOOC model.

According to Ebner M., Lackner E., Kopp M. (2014), MOOC is a trendy phenomenon in electronic education.

Much attention is paid to understating the teacher's role in implementation of MOOC, or rather in its creation and development; in particular, J. Ross, S. Sinclair, J. Knox, S. Bayne, H. Macleod (2014) have analyzed the role of a teacher in MOOC, which, in their opinion, differs significantly from the functions performed by a teacher in the traditional learning process. Depending on the type of MOOC, a teacher may act as a trainer, a content supervisor, training moderator or facilitator.

A number of works are devoted to the practical aspects of MOOC development (Solodov, 2016), such as: selection of the most appropriate and relevant type of course; consideration of key didactic, technical and administrative factors; structure of the basic components; pedagogical and methodological constructs of online courses commensurate with the requirements placed on them in the 21st century and based on the principles of critical thinking and cooperation, continuous self-education and teamwork (Guardia et al., 2013).

There are a series of publications analyzing the experience of learning through MOOC (Ebben & Murphy, 2014).

3 Research Methodological Framework

The main purpose of our study was to identify the level of interest shown by students to e-learning resources and the degree of their satisfaction with the quality of provided educational services.

The objectives of our study were, first, to determine whether teachers used distance forms of work and Internet technologies in teaching before introduction of a nation-wide distance learning due to the Covid 2019 pandemic; second, to find out whether learners were aware of the existence of a virtual learning environment such as MOOC, and to reveal their attitude towards MOOC; third, to determine the range of problems faced by trainees in distance learning and their preferences; and fourth, to unravel whether modern students see MOOC as an alternative to the traditional education.

In the scientific literature, an opinion exists that there is no distinct difference between e-learning and traditional learning. However, most specialists believe that a digital environment offers a new improved version of education, instils a culture and at the same time is impacted by the culture of learning.

In order to reveal the nature of social changes that have occurred with the expansion of the virtual learning environment, to scale up pedagogical communication on the Internet, to study the intrinsic features of interpersonal communication in the global learning network, we have analyzed information on the use of various services in training sessions over the period from 06.04.2020 to 20.04.2020 at the Tyumen Industrial University (Institute of Service and Branch Management).

The research object was young people aged from 18 to 25 years, who are university students and users of social media, and the subject was the attitude of students to the distance learning environment in general, and to MOOC, in particular.

We conducted a survey among the students of Tyumen Industrial University of 1st to 4th years of Bachelor's course and 1st to 2nd years of Master's course of intramural education in online format. Intramural students voluntarily took part in the survey. In total, 1407 forms were completed. These were the students of the Institute of Service and Branch Management (TIU).

The online survey included several questions: 1) Do you like to study remotely? 2) Have your teachers previously introduced distance learning environments and Internet technologies in the teaching process? 3) Which virtual learning environments and virtual services are your teachers using in education? 4) Which virtual learning environments and virtual services do you find most convenient? 5) What is MOOC? 6) Have you selected MOOCs offered for free on the educational platforms during the COVID 2019 pandemic? Please specify which MOOCs you have selected. If your answer is no. Please indicate a reason. 7) Please provide your opinion of the pedagogical content of MOOC you have taken: what is it that you specifically like or dislike? 8) What difficulties have you encountered in distance learning and MOOC? 9) Do you want a distance learning format to persist? 10) Do you see MOOC as an alternative to the traditional forms of education?

4 Results and Discussion

With the help of a questionnaire survey, we found that TIU teachers were vigorously using Internet technologies and virtual educational environments even before the pandemic and the mandatory distance learning.

Teachers actively use electronic messengers (Viber, WhatsApp), vk.com, e-mail, youtube.com, skype, and open Internet resources for education (MOOC, TIU's Open Education Platform) for teaching students in a remote mode, but educon is the basic system.

Analysis of the survey results revealed that the majority of respondents were aware of the existence of such educational resources as MOOC (83%). The rest 18% do not have a clear idea of this particular educational resource, but have experience in distance learning. Today in TIU, the proportion of students mastering disciplines with the help of electronic learning resources amounts to 100%. Clearly, this result is explained by the use of such resources as the university's educational environment (educon), the university's open education platform, and only a small percentage is taken by Coursera (4%) and the National Open Education Platform (7%), which are used as additional resources.

As shown by the practice of implementing the developed modules and undertaking MOOCs, students' speech activities and underlying language skills are not the major difficulties arising in distance learning. The first difficulty faced by the

students was the resource itself. According to the students, their computer skills are not good enough, and this impedes their work with electronic systems.

Virtual learning environments of educational institutions have a considerable potential for restructuring the existing traditional system of education.

A person continuously undergoes professional development throughout the entire life by resorting to various forms and methods of academically organized professional learning, including mechanisms for personal and professional development.

In the students' opinion, massive open online courses have certain benefits as compared to the traditional education: accessibility (territorial, financial, social, by intellectual levels); openness (registration for courses is usually open and you can join them regardless of whether the course has started or not); mass character (the number of students who may simultaneously take the course is unlimited); structured and consistent presentation of material (pedagogical design caters to the structured course content and its adjustment for learning).

The drawbacks of MOOC include: lack of or insufficient interaction with a teacher (semantic barriers); different entry levels of training of course participants (trainees may have different levels of knowledge that they had prior to the beginning of training either in the field of study or related fields, which may make it impossible for some people to complete the course, and make the process of learning uninteresting or too easy for others); inability of a course participant to be self-reliant in studies (self-control and motivation are crucial for learning).

Most of the respondents believe that MOOC should combine alternativeness and integration: this type of education should exist along with the traditional education, be complementary to it and represent an alternative to ensure that environment is competitive.

One of possible applications of massive open online courses can be within the adapted educational programs for students with health limitations.

5 Conclusion

It is characteristic of the modern social and humanitarian scientific thought to explain the existing social phenomena and occurrences. A set of multimedia equipment is able not only to motivate for the process of learning and invigorate the mental activity of students, it also greatly facilitates the absorption of educational material, while developing creativity and making communication with the society easier.

Use of information and communication technologies in the higher vocational education is important also in terms of acquisition of presentation skills and development of electronic communication and remote interaction skills.

Delivery of high quality education to university graduates, future specialists, is the ultimate goal of higher education. The society's transition from industrial to post-industrial stage goes along with the economic revolution, which dictates the need to revise the content and the criteria of the concept of a highly qualified employee. At the same time, the government is grappling with the problem of training such a specialist of a completely new level, who would be capable to successfully address the issues in the country's digital economy in the ever-changing environment.

As one of the main social institutions of the world order, education has a direct impact on the lives of people, the level of society development, socio-economic well-being of the country, as well as social stability and mobility.

Virtual learning environment and global information space may be viewed as holding a potential for contributing to one of the main indications of social state and civil society, i.e. equal access to education for all, with the massive open online course today representing one of the most effective and feasible tools to fulfil the need for an alternative educational environment.

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