COVID-19 Impact on Ukrainian Higher Education

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Abstract   The pandemic and the announced quarantine have made adjustments to the bachelors and master degree student education in almost all universities around the world. The transition to the online education using modern Internet technologies has been made, that has led to certain challenges in higher education system. The purpose of the article is the analysis of COVID-19 impact on Ukrainian higher education. The following research methods were used in the article: empirical methods, methods of theoretical analysis, questionnaire, and interview. In the article the approaches to the online education in universities in Ukraine have been analyzed. The results of the article have a few significant implications for science and practice of online education and its perspectives for Ukrainian higher education system. Prospects of online education of students have been offered during COVID-19. The main recommendations are the following: to organize training courses of online education methods for lecturers; to organize in-depth training courses of online education methods for lecturers of non-pedagogical specialties (including training in interactive online teaching methods, formation of an individual learning trajectory, online multidisciplinary courses development); university's management should provide constant monitoring of the satisfaction of students and lecturers of the online education organization for the accumulation of statistical data in the dynamics.

Keywords   Higher Education, Online Education, Covid-19, Ukraine, Transformation

1. Introduction

New forms and methods of education have become increasingly important since quarantine beginning. The COVID-19 pandemic has led not only to changes in the global architecture and system of the world economy, but also to the transformation of higher education. The latest trends have rapidly affected new requests for education. In the educational system the soft skills have become even more important because they allow future employees to adapt to new challenges, as well as ensure self-education and life-long learning.

An additional outcome of the Universities' response to COVID-19 challenges is imporving of digital competencies of both students and teachers.

Online education requires new approaches to the organization of classes, individual assignments, self-education approach.

COVID-19 has significant impact on and pushes transformation of the structure of university education in Ukraine. It becomes necessary to modernize teaching methods in universities. And it was the pandemic that gave such an impetus to rapid and effective transformations in the higher education system of Ukraine.

2. Methods

The study was carried out at the National Aviation University since December 2019 till June 2020. It was focused on the result of university`s education transformation because of COVID-19.

The object of the study is the Ukrainian higher education system.

The subject of the study is higher education system transformation in Ukraine during COVID-19.

The purpose of the article is the analysis of COVID-19 impact on Ukrainian higher education.

The following research methods were used in the article:
- empirical methods (study articles, statistical database, other publications);
- methods of theoretical analysis (analysis and synthesis; specification and generalization):
- questionnaire;
- interview.

The questionnaire sample includes 397 participants who are higher education institutions (both private and

government) representatives from different parts of Ukraine. They were selected randomly and recruited via social media networks. The sample inclusion criteria is being a representative of Higher Educational Institution.

The interview participants are Rectors and Vice-Rectors of the Ukrainian Universities – 23 participants in total. Among them 19 state Universities and 4 private Universities; 13 classical, 2 economic, 3 politechnical, 2 agricultural, 3 pedagogical Universities; 9 Universities with up to 5,000 students, 11 – from 5,000 to 10,000 students, 3 – more than 10,000 students.

The article was performed in the next stages:
– literature review;
– data collection via questionnaire and interview;
– data analysis;
– results evaluation and discussions of challenges in higher education in Ukraine.

3. Literature Review

Nowadays three emerging pedagogical trends are identified [1]. Firstly, it's "a move to opening up learning, making it more accessible and flexible" which means the face-to-face communication with a teacher in the classroom is no longer the unique learning center. A teacher and their lectures are no longer the monopoly 'source of information and knowledge transfer' and students can obtain information on each topic very easily by themselves. The second trend is defined as 'an increased sharing of power between the instructor and the student' which means changing roles of teacher and a student with the aim to develop and support student autonomy, to increase students' interactions among peers via social networks, asynchronous discussions, peer assessment and feedback etc. The second trend is closely related to the third one which is 'an increased use of technology, not only to deliver teaching, but also to support and assist students and to provide new forms of student assessment' [1]. These trends informs not only to pedagogy, but also to andragogic approaches as adult learners are more self-directed, goal oriented and responsible for their own learning [2], that is very important during online education in quarantine.

Cognitivism, Constructivism, Connectivism are the main theories which inform any online education strategy and are considered to be appropriate for adult online courses. Modritscher argues that certain learner characteristics should be prioritize in online education strategy as impacting factor to prevent the students from failing the course and to optimize the education process [3]. The student should play an active role in understanding of the materials and information as cognitivism suggest. Constructivism as the theory is focused on preparing students to problem solving and creative thinking. Connectivism adds value to this theoretical approach in terms of understanding learning in digitalization era and

suggests such learning tools and technologies as social networks, web searching, online discussion forums. Connectivism means that online education happens maintaining connections through the social networking. Social learning is based on online collaborative tools such as blogs, wikis, social media and it enhances connectivism concepts and principles [4]. The approach to education as a service contributes to the transformation of the higher education system [5-9].

In the last Months, some papers related to COVID-19 influence on educational system have been published [10-12]. These papers showed the development of higher education in the conditions of pandemic, as well as impact of COVID-19 on mental health of students, university staff and lecturers.

Some articles about psychological impact of COVID-19 on higher education participants have been reviewed considered in this study and included into the bibliography [10; 12]. General effect of COVID-19 on education was discussed by O. Chandasiri [11].

The results Global Impact Survey showed that only 1 % of institutions is open as usual, no special measures in place for COVID-19 (it is Higher Education Institution (HEI) in Burundi); 10% of institutions are open as usual, but containment measures have been put in place to avoid spread of COVID-19; 30% of institutions is partially open, but there are major disruptions; 59 % - all campus activities have stopped and the institution is completely closed [13]. These facts represent the response of universities in global conditions to the COVID-19.

In Ukraine from 12 March 2020 the nursery schools, general secondary schools, colleges, out-of-school educational institutions, universities, institutions of undergraduate, graduate and postgraduate learning was closed. The education in the country has moved to the online forms [14].

Despite the importance of events in the sphere of higher education in Ukraine, according to the time limits of this issue, thorough research has not yet been conducted. There is no systematic analysis of online education during COVID-19 and recommendations. Therefore, the topic of this article is relevant, modern and important.

4. Results

Traditional methods of teaching and organizing the educational process were mainly used in Ukrainian universities before COVID-19. But Ukraine has high educational potential that influence its social development [15].

Since the beginning of quarantine, higher education institutions have not been fully prepared for online education, they have used only certain elements of online education. And online teaching methods have required the development and clear regulation. During the interviews in

May-June 2020, most of the HEIs noted that before quarantine, their facilities used certain elements of online education and relied heavily on the Moodle system (figure 1). In addition, the development of online education had a special appointment and was a response to the demands of time or circumstances. Thus, some online courses were introduced for students of displaced HEI`s (HEI`s that were moved from Donetsk and Luhansk region as a result of the occupation of Crimea and military actions in Eastern Ukraine). Other examples are online courses for convicts in colonies.

Thus, the results of the survey showed that 61.1% of respondents used online learning tools sometimes or some of its elements (figure 1). More than 23.3% had no previous online experience. Only 13.7% had experience and constantly taught online. So mostly Ukrainian lecturers had no experience of constant online education (86 %).

In addition, there was the issue of online accreditation and quality assurance in higher education during the pandemic. In 2019, a study conducted by National Agency for Higher Education Quality Assurance showed that 68% of higher education institutions have an internal quality assurance system and 32% some elements of this system

[16]. Moreover, 75.4% of HEIs systematically conduct surveys of students on the quality of educational programs in general, and 73.2% - on the level of their satisfaction with the content of curricula [16]. This quality assessment tool is important during the transition to online education in quarantine.

Despite the unexpected announcement of nationwide quarantine in the country and the first "shock" (figure 2), universities quickly organized the process of online education.

According to the information in Figure 2, 80 % of respondents was ready and prepared for online education and 18.6 % was not prepared properly for online work. So despite the lecturer's lack of experience, they were ready for online education organization.

Online education was on various online platforms with using of video communication - Moodle, Google Meets, Zoom etc. Online conferences, debates, discussions, lectures and seminars. And according to the results of the survey, the most optimal respondents considered video meetings in Zoom (84%). Universities have actively used the Google Meets platform for online education as well.
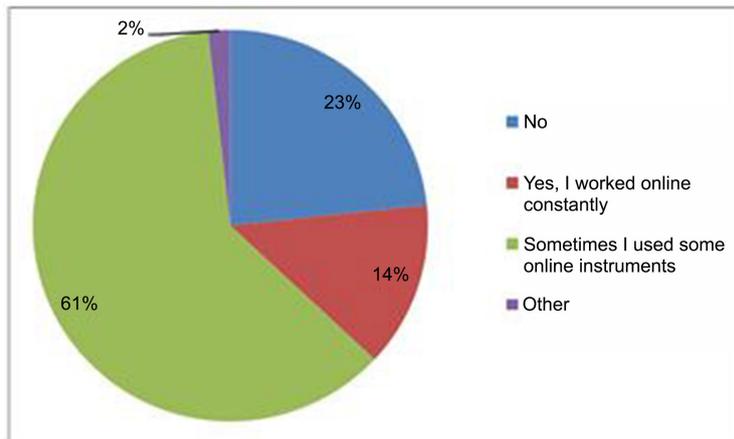

Figure 1. Respondents' survey results about previous experience of online work before quarantine (343 response)
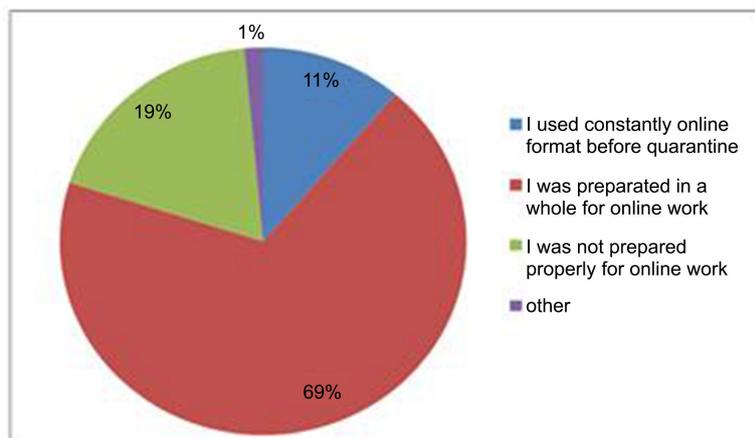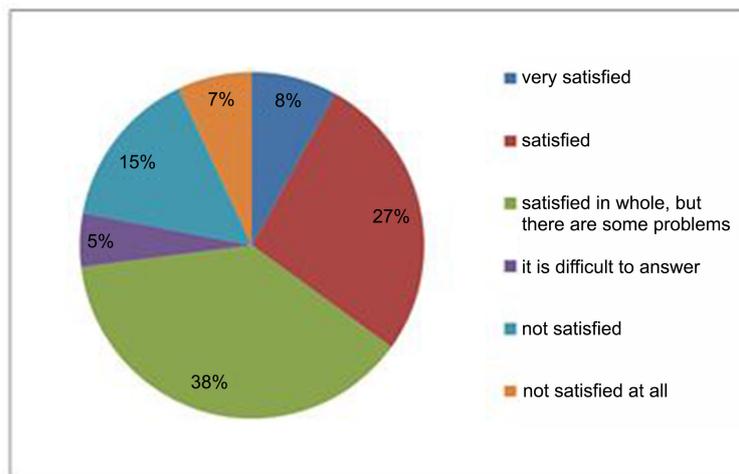

Figure 2. Respondents' survey results about readiness for online work (343 response)

Figure 3.   Results of students`satisfaction with the online education at the National Aviation University, Ukraine, April 2020 [17].

During the quarantine period, the university administration studied the existing problems and constantly monitored and interviewed higher education applicants. As an example, a survey of students at the National Aviation University (Ukraine) in April 2020 about the quality of the online education (Figure 3) [17]. More than 1,700 students, including international students, took part in the survey.

The results of an anonymous survey showed that more than 70% of students are satisfied with the quality of online education at the university, although there are some difficulties and problems (figure 3). Mostly students need live communication with and video lecturers and seminars during COVID-19. Also 22 % of students were not satisfied by online education [17]. The main reason is 19 % of lecturers who was not prepared properly for online education (figure 2).

Surveying students during quarantine is an important aspect because the traditional connections between the dean's office and the student have been lost. There was a transformation of educational relations. Online surveys of students have become necessary in this aspect, because they allowed quickly identifying problems and responding to them.

Online education has shown problems with the provision of the Internet to the population of Ukraine (not in all villages and towns it is available), not all participants in the educational process have computers and other gadgets that are necessary to participate in online education.

However, there are positive aspects of online education:
−   the ability to attend lectures, seminars from anywhere in the country with the Internet (80% of students surveyed by the National Aviation University [17]);
−   the ability to do homework with individual pace;
−   transparency of students grading.

Education system influences on student's awareness formation [18], that is very important in pandemic conditions to create possibility of new challenges overcoming.

5. Discussion

The study had three main results:
1.   86 % of Ukrainian lecturers had no substantial experience of online education before COVID-19.
2.   80 % of Ukrainian lecturers consider themselves to be ready for online education.
3.   70% of students are satisfied with the quality of online education at the university, although there are some difficulties and problems.

The difference between results of Figure 3.1 and Figure 3.2 in the future research, because some elements and instruments of online education were used by lecturers before COVID-19. They had digital competencies so adapted quickly for new situation. But it is necessary to organize some training in online teaching methods.

It is important to discuss that the next-generation pedagogy is formed with five parts: Intelligent, Distributed, Engaging, Agile and Situated (IDEAS) [19]. This five guideposts reflect innovative approach in education: Intelligent pedagogy means teaching in which technology is used to enhance the learning experience; Distributed pedagogy refers engagement of different stakeholders who owes different elements of the learning journey; Engaging pedagogy means that learners should be actively participate in the learning process and such approach should be supported by curriculum design and delivery; Agile pedagogy means flexibility and customisation of the curriculum, personalised learning pathways and individualised support for learners, recognition of non-formal learning achievements, responsiveness to learners' needs, and support for virtual mobility of students and internationalisation of the curriculum; Situated pedagogy reflects contextualisation of learning and its

real-world relevance, expands work-related learning opportunities for students [19]. These new approaches are important for online education.

Learner engagement, innovative approaches, effective education, formative assessment, coherence, consistency and transparency are among core pedagogic principles for online education which create its quality framework [20]. Effective online lecturer should have relevant competencies and skills in pedagogical and androgogical teaching models [21]. However, they are not only pedagogical and core androgogical, but also heutagogical and cybergogical principals. Online education should motivate and engage students. From one side, they should feel being supported, but from the other side they should be proactive and motivated to become independent learners. Effective online education is also based on the principle of digitalization and innovations in education and can be demonstrated via personalization, evidence-based approach, encouraging metacognitive thinking, authentic learning [20].

During COVID-19 there is movement from traditional pedagogic and andragogic models to heutagogy and cybergogy approaches. Heutagogy is considered to be 'a student-centric learning strategy where learning is determined by the learner ' and encourages self-directed learning [22].

6. Conclusions

Thus, Ukrainian educators had no substantial experience of online education but responded quickly and adapted to the changes. It also concerns the management of the HEIs. Recommendations and propositions for the online transformation of higher education in Ukraine are the following:
−   to organize training courses of online education methods for lecturers;
−   to organize in-depth training courses of online education methods for lecturers of non-pedagogical specialties (including training in interactive online teaching methods, formation of an individual learning trajectory, online multidisciplinary courses development);
−   university`s management should provide constant monitoring of the satisfaction of students and lecturers of the online education organization for the accumulation of statistical data in the dynamics.

The aim of the next study is to accumulate statistical data and to develop the regulatory framework for online education in Ukraine.

Acknowledgements

REFERENCES

[1] A New pedagogy is Emerging … and Online Learning is a Key Contributing Factor. Online available from: https://teachonline.ca/tools-trends/how-teach-online-student-success/new-pedagogy-emerging-and-online-learning-key-contributing-factor (20 June 2020).

[2] Ch. Pappas. Pedagogy Vs Andragogy in eLearning: Can You tell the difference? eLearning Industry. Online available from: https://elearningindustry.com/pedagogy-vs-andragogy-in-elearning-can-you-tell-the-difference (20 June 2020).

[3] F. Modritscher. The Impact of E-Learning Strategy on Pedagogical Aspects. Semanticscholar.org. Online available from: https://pdfs.semanticscholar.org/b6c1/9ca093d5187491be0afb4b5527e800e17abe.pdf (20 June 2020).

[4] M. Keramida. The Pedagogy Behind MOOCs: What eLearning Professionals Should Know. eLearning Industry. Online available from: https://elearningindustry.com/the-pedagogy-behind-moocs-what-elearning-professionals-should-know (20 June 2020).

[5] L. Bunce, A. Baird, S. E. Jones. The student-as-consumer approach in higher education and its effects on academic performance. Studies in Higher Education, 42:11, 1958-1978, 2017.

[6] V. Okulich-Kazarin, M. Zhurba, et al. Three Characteristic Features of the East European Education services Market. Universal Journal of Educational Research, 8(4): 1549 - 1556, 2020.

[7] V. Okulich-Kazarin. What Method of Learning do Media Students Prefer at Lectures: Auditory or Visual? Universal Journal of Educational Research, 8(6): 2660 - 2667, 2020.

[8] V. Okulich-Kazarin, M. Zhurba, Y. Bokhonkova, et al. Three Scientific Facts about Ukrainian and Polish Law-students: Verification of statistical hypotheses about their Preferences of Learning at Lectures. European Journal of Contemporary Education, 8(3), 562-573, 2019.

[9] V. Okulich-Kazarin, M. Zhurba, O. Pagava, et al. Lecture method preferences, auditory or visual, of Ukrainian consumers of educational services: a statistical analysis, International Journal of Education and Practice, Vol. 7, No.2, 54-65, 2019.

[10] P. Odriozola-González et al. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. Psychiatry Research. 113-108, 2020.

[11] O. Chandasiri. The COVID-19: impact on education. ournal of Asian and African Social Science and Humanities (ISSN 2413-2748), T. 6, №. 2, 37-42, 2020

[12] P. Sahu. Closure of universities due to Coronavirus Disease 2019 (COVID-19): impact on education and mental health of students and academic staff, Cureus. T. 12, №. 4, 2020.

[13] G. Mariononi, H. Land, T. Jensen. The impact of COVID-19 on higher education around the world. Paris: International Association of Universities, 2020.

[14] N. Stukalo, O. Dluhopolskyi. Educational Programs Accreditation in Pandemic Times: Challenges for NAQA (Ukraine). Revista Romaneasca pentru Educatie Multidimensionala, 12 (1Sup2), 167-172, 2020.

[15] N. Stukalo, A. Simakhova. Global parameters of social economy clustering. Problems and Perspectives in Management (open-access), 16(1), 36-47, 2018.

[16] S. Kvit et al. Annual report of the National Agency for Higher Education Quality Assurance in 2019 [Richnyy zvit Natsionalnoho ahentstva iz zabezpechennya yakosti vyshchoyi osvity za 2019 rik], K.: National Agency for Higher Education Quality Assurance, 2020. [in Ukrainian]

[17] Results of students survey in NAU [Rezultaty studentskoho opytuvannya] Online available from: https://nau.edu.ua/ua/news/2020/kopiya-berezen/rezultati-studentskogo-opituvannya.html [in Ukrainian] (17 June 2020).

[18] N. Stukalo, A. Simakhova. Social Dimensions of Green Economy, Filosofija. Sociologija. T. 30, Nr. 2, 91–99, 2019.

[19] UOC (University Oberta de Catalunya) (n/a) Next Generation Pedagogy: IDEAS for Online and Blended Higher Education. Final Report of the FUTURA project. Online available from: http://openaccess.uoc.edu/webapps/o2/bitstream/10609/51441/1/Next_Generation_Pedagogy.pdf (20 June 2020).

[20] J. Anderson; R. McCormick. Ten Pedagogic Principles for E-Learning. Insight. Observatory for new technologies and education. Online available from: https://www.researchgate.net/publication/47343091_Ten_pedagogic_principles_for_E-learning (20 June 2020).

[21] T. A. Adebisi; O. O. Oyeleke. Promoting effective teaching and learning in online environment: a blend of pedagogical and andragogical models. Bulgarian Journal of Science and Education Policy (BJSEP), Volume 12, Number 1, 2018 Online available from: http://bjsep.org/getfile.php?id=263 (20 June 2020).

[22] R. Schroeder. Pedagogy, Andragogy, and Now Heutagogy. UPCEA. Online available from: https://upcea.edu/pedagogy-andragogy-and-now-heutagogy/ (20 June 2020)