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CHALLENGES OF SECURING EDUCATION QUALITY DURING UNCERTAIN TIMES

Abstract. *The focus of the article is the system of higher education. The hypothesis of the study is the statement that the COVID-19 pandemic has transformed the forms and content of educational processes, and after its end, the system will not return to the state "before the pandemic" but will continue to function on new bases. The research was conducted based on analyzing experiences in different countries and observing the educational process at the Ukrainian American Concordia University. The research confirmed the formulated hypothesis and made it possible to develop some recommendations.*

Keywords: *COVID-19, educational systems, university, adaptation, stakeholders*

The overall backdrop

The COVID-19 pandemic has demonstrated that no single institution or individual can solve our complex interdependent world's economic, environmental, social, and technological challenges alone. The pandemic has accelerated systemic changes that were evident before its inception. The fault lines that emerged in 2020 now look like pivotal development points in the coming years. On the form in Davos in January 2021 [1], it was noted that we are entering a period of building new relationships, as the need to rearrange priorities and the urgency of reforming systems are increasing worldwide.

The transition to distance learning in connection with the COVID-19 pandemic has caused a deterioration in the quality and accessibility of education [2], as well as an exacerbation of a number of educational inequalities. At the beginning of the pandemic, 90% of schools around the world were closed [3]. In the recommendations from UNESCO [4], the first point refers to checking the readiness of schools for the transition to a distance format: provision of gadgets, Internet with a high-quality connection, developing digital skills in educators and students.

According to [5] we do not yet fully understand what is going on with students while they are enrolled in higher education. This is problematic. There are about 197 million students today globally, and UNESCO predicts that this number will rise to 262 million by

2025 [6]. The opportunity costs are enormous for individual students and our economies and societies. In case higher education institutions do not fulfill their promise of formative effects on students because they do not have sufficient information and knowledge of what, why, and how students learn and develop in the higher education context.

The shift of teaching and learning to an online delivery mode obliged by the COVID-19 pandemic has become an integral part of the education system in the world [7]. However, the levels and methods of using them to achieve quality education are varied and depend upon the various factors associated with information and communication technology policy and their practices in education even before the closure of schools and universities as a preventive measure against the COVID-19 pandemic. In this context, the study [8] claims that to achieve positive results in incorporating teaching technology, it is necessary to understand the types of interaction among the teachers, students, and technologies.

Findings [9] indicate that the typical student has some difficulty adapting to online courses but that some students adapt relatively well while others adapt very poorly. For improving student performance in online classes, scaffolding can be used: incorporating the teaching of online learning skills into online courses in which less-adaptable students tend to cluster, such as English composition. This strategy would require the college to work with instructors to develop materials and assignments that develop online learning skills and deploy them in the selected courses. However, a potential drawback to this strategy is that some students might enroll in several "scaffolded" courses and become bored and frustrated with the now-unnecessary online learning skill exercises.

In addition to providing technical means for remote learning, it is also essential to master the skills of using these means — participants' digital literacy in the educational process. For example, the European Commission approved the Digital Education Action Plan for 2021-2027 [10]. It emphasizes two essential areas of work:

- promoting the development of an effective digital education system (infrastructure, communication, technical means, development of teaching and teacher competencies, high-quality educational content);
- improving digital skills (basic digital skills from an early age, combating misinformation, ensuring equal access of women and girls to digital education, etc.).

Ukraine is in the spotlight

Education is one of the fundamental human rights enshrined in Article 26 of the Declaration of Human Rights, the Constitution of Ukraine, and the Law of Ukraine

"On Education." The quality and availability of education directly impact people's incomes, employment, development, health, and socialization.

In the spring of 2020, all educational institutions in Ukraine switched to distance learning. A few months later, "adaptive quarantine" was introduced in Ukraine, which provided for the division of Ukraine into epidemiological safety zones: "green," "yellow," "orange," and "red." Accordingly, institutions of general secondary education constantly switched from distance learning to mixed learning and vice versa, while higher education institutions mostly remained on distance learning.

In Ukrainian education, there are still signs of unpreparedness for a sharp transition to distance learning: a lack of material and technical base, a practical lack of working skills in this format at the time of the transition to the teaching staff, as well as a lack of appropriate training and methodological recommendations on the organization of the educational process. In addition, there is a lack of data to critically assess the state of (un)readiness of the educational system for the distance format and the quality of distance education in the second year of the pandemic. During this time, international expert organizations have developed enough recommendations for the organization of distance learning, maintaining the quality of education and the health of students, students, and educators; in particular, a significant place is devoted to maintaining psychological health.

Moreover, we should not forget about promoting the principles and ensuring academic integrity. The Ministry of Education and Culture issued "Recommendations on the implementation of blended learning in institutions of professional pre-higher and higher education," [11] which, among other things, consider ways to prevent plagiarism in student works. Among the effective methods are diversification of tasks (audio, video, text, presentations, etc.), limitation of time for completing the task, focus on the content of tasks without a ready answer from available sources, use of tools of platforms for distance education (for example, random order of test questions and answer options on them) and others.

Generally speaking, Ukrainian educators had no substantial experience in online education but responded quickly and adapted to the changes [12].

How do you estimate the efficiency, or what are some questions to ask about online learning?

Chickering and Gamson [13] created the Seven Principles for Good Practice in Undergraduate Education as guidelines for effective teaching and learning. The Seven

Principles have been successfully used to guide and develop courses in online education. Newlin and Wang [14], Sowan and Jenkins [15], and Creasman [16], used the Seven Principles to discuss the importance of developing online courses guided by sound pedagogical practice to promote quality:

1. Encourages student-faculty contact
2. Encourages cooperation among students
3. Encourages active learning
4. Gives prompt feedback
5. Emphasizes time on task
6. Communicates high expectations
7. Respects diverse talents and ways of learning

According to the study [17], the main problems of online education are:

- Organizational issues: "conditionality" of presence (screens turned off, microphones) and participation in the training of trainees/students.
- Technical problems: technical capabilities of gadgets, quality of Internet connection.
- Psychological problems: limited feedback and impossibility of prompt response to the behavior and position of listeners/students.
- Technological problems: insufficient technological resources of digital platforms to solve an online training task or a practical task;
- Methodological problems: forms and methods of offline learning do not correspond to an online format
- Content problems: filling with content (inconsistency of the amount of information with the possibility of mastering it online). In particular, the amount of material for the offline format is extraordinarily broader and more voluminous than the material that should be displayed online.

Questionnaires can be used qualitatively or quantitatively. As with all other methods, the value of the questionnaire depends on its ability to provide data that can answer the research question. The way a questionnaire is designed and worded can be significant in this. A questionnaire designed to capture levels of student satisfaction may well provide information to this end. Still, for researchers interested in more than this, such measures could amount to little more than superficial data. Careful consideration needs to be given to what the questionnaire is intended to elicit, and so – depending on their study – some researchers might find it more beneficial to use pre-existing standardized questionnaires based on

validated scales such as those used to measure self-efficacy or agency [18]. There are several approaches to constructing the students' surveys, and educational units can choose the most appropriate one.

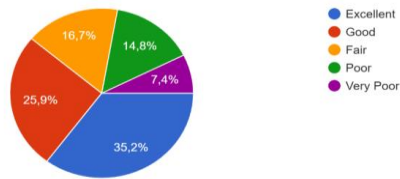
We want to stress that any university should take recommendations about surveys and organize online education as a framework, not a dogma. For illustration, I take the Ukrainian American Concordia University, where students monitor compliance with the workload, instructors are interviewed several times during the semester, mutual attendance the classes, and discussions at the department meetings to understand the difficulties are held. Moreover, during the first wave of quarantine, an additional questionnaire was conducted to adjust the courses of the spring semester 2020. Two main questionnaires are used to interview students about the learning process.

Questionnaire 1 (<https://www.concordia.edu.ua/questionnaire-for-bachelor-students/>) located on the university website and available to students during the semester. The student can answer questions about the courses he/she is currently taking at any convenient time. Reviews are regularly monitored by a representative of the Dean's office. This allows us to respond quickly and resolve complex situations during the learning process. In addition, students are asked to take this questionnaire 1-2 times during the semester (after the midterms). Students' answers are sent to instructors for processing and analysis. If necessary, changes are made to the educational process.

Questionnaire 2 (<https://www.concordia.edu.ua/questionnaire-for-bachelor-students-previous-semester-on-campus-courses/>) is more detailed. The questionnaire is conducted after the end of the semester. Students answer questions about courses they have already completed. From the fall of 2019, the survey is conducted online.

The figure underneath demonstrates the results instruments – questionnaires (<https://www.concordia.edu.ua/uk/monitoryng/>) for monitoring and updating the methods and approaches (Fig. 1).

What overall rating would you give the instructor?
54 відповідей



Learning environment and teaching methods

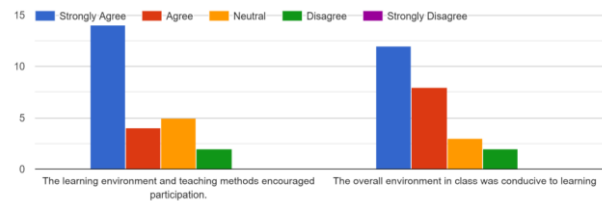


Fig. 1. Selected results from the spring semester 2021-2022 for Ukrainian-American Concordia University.

Source <https://www.concordia.edu.ua/wp-content/uploads/2022/06/questionnaire-spring-2022-poll-2.pdf>

So, what are the consequences of remote study in a nutshell?

- Distance learning developing. The inability of people to contact each other in the early stages of the pandemic presented an excellent opportunity for the use of remote meeting applications such as Microsoft Teams and Zoom.
- Student's distraction. Device screens are conducive to distraction; whether it's a quick break on YouTube or a quick round of a video game, it's become effortless to get distracted because no one can constantly monitor a student's attention; minutes can turn into hours.
- Increasing lack of interaction. Sitting in a classroom has its advantages in learning. Interactive interaction between the teacher and the student helps the student better understand the concepts being studied. Online learning lacks this interactive environment.
- Lack of courses for teachers. Although new teaching methods appeared, teachers practically did not have time to complete the courses to master them. This resulted in long adjustment times, causing confusion and wasted time. Timely completion of the curriculum became a significant challenge as teachers and students needed time to get used to the new way of learning.
- Hybrid learning as new normality. Learning does not fully return to what was previously considered normal when things return to normal. Most likely, the lessons we have learned from the era of total distance learning have led the world to consider a separate method of learning called the hybrid mode—a combination of distance learning and classroom learning. This form of education can be called a new norm. Several advantages are associated with the new norm. Let's consider them.

- Reduction of missing steps In the old system, if you skipped the class, you lost the opportunity to listen to the materials. But with the new norm, there is a possibility that the lesson will be recorded on video.
- Online tutors as common practice. While online tutoring existed before the pandemic, demand for it has skyrocketed during the pandemic due to the challenges of entirely remote schooling, as mentioned earlier. Let's say that you could not understand the topic during distance learning. Now, you can hire a tutor to help you better understand an incomprehensible topic.
- Visual learning development. Even before the pandemic, the world was moving towards digital lessons, but a lack of teacher training and motivation led to slow progress. After mastering distance learning, it is no longer a problem for teachers to create a digital lesson. Moreover, digital classes are becoming a mandatory component of educational programs after the pandemic.
- Improving homework. With the growing trend of introducing digital media into the education system, homework best practices are rising. Whether you're using math chat to confirm homework answers or digital platforms to develop cutting-edge science projects, it's clear that new homework methods are the new norm and help students better understand how to map their theoretical knowledge to real life.

Summing up, developing new approaches to education and improving its effectiveness involves teachers and students. Each participant must understand how to increase efficiency and have the knowledge and capabilities to do so. Therefore, it is worth starting with teachers and the direct organization of the educational process with the direct participation of students, taking into account their feedback (Fig. 2).

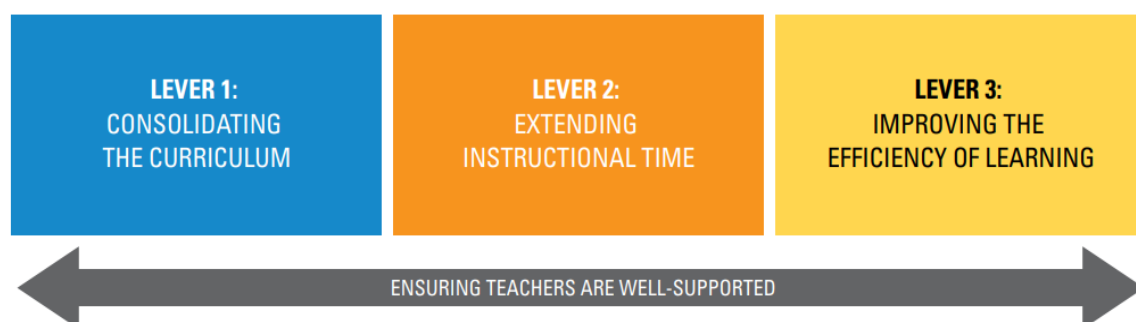


Fig. 2 Three policy levers to accelerate learning recovery [19]

How to organize online education efficiently?

Furthermore, the encompassing student-centered approach is implemented in a teaching/learning environment where students and professors are partners in the educational process. A student has an opportunity to use their talents, interests, background, and life experience. The following methods are regularly used:

- Surveys are conducted at the beginning of a course to help instructors understand students' goals, needs, and interests. This is very helpful because it gives an instructor additional information on what to make during the course exercises (for example, while solving case studies). This helps instructors improve the structure of classes.
- During each class, students can provide feedback about the course while it is taking place (<https://www.concordia.edu.ua/questionnaire-for-bachelor-students/>) and have a chance to do it at the end of each period (<https://www.concordia.edu.ua/questionnaire-for-bachelor-students-1st-semester-courses/>).
- This way, instructors know how to improve their courses.
- Students can choose their internship location and the topic of their Bachelor's Thesis.
- Students develop their competencies thanks to free workshops, webinars, field trips, and conferences.
- Students conduct scientific research and prepare reports for conferences sponsored by UACU or other universities. Conducting research is a powerful teaching method as students create their knowledge and understanding under the guidance of professors.
- Furthermore, the methods of teaching/learning meet the requirements of academic freedom. Such practices include forums, Chats, Open discussions, and group and individual projects.

Effective communication is the key to successful teaching and learning in a physical or virtual classroom. However, maintaining online communication with not one but over twenty students is undoubtedly challenging. Communication platforms help overcome it; they enable communication with larger groups, with video conferencing, instant messaging, [audio calls](#), virtual rooms, and more, with any device and from anywhere [20].

Interaction with good resources in an online environment is often not a significant difficulty. Although distance education may be associated with a restricted set of learning resources, new technologies reduce this problem for both lecturers and students. Indeed, even

for on-campus students, an increasing proportion of the resources they access are online [21]. In general, the necessary competencies (for both teachers and students) are shown in Figure 3.



Figure 3. Model of competencies for online education.

Source: *The Agency of professional development* – <https://www.aproacademy.org/>

Attending classes delivered by other instructors is essential to sharing experiences and providing interdisciplinary links. In addition, the analysis of the type helps the instructor, based on professional assessment, to focus on the problematic aspects of the teaching methodology and the course in general.

Each semester, each instructor attends at least two classes with their colleagues and submits a report to the Dean's office. After attending the class, the instructor fills out a questionnaire and briefly describes the course. Instructors are sure to discuss issues that arise during the visit. Comments and recommendations are considered in the instructor's further work. General matters of mutual visits must be discussed at the meetings of the departments.

Instructors are involved in the development of methodological requirements for the program, review, and recommendation of curricula, examination of courses, approval for printing textbooks and other educational materials, providing advice on the appropriateness of educational materials in the educational process, use of innovative technologies and dissemination better experience in organizing the educational process.

Conclusions

At a fundamental level, COVID-19 is challenging the core business of higher education institutions to support students across a wide range of academic programs. This significantly complicates the implementation of interactive, personally-oriented traditional

classroom training based on many years of experience at universities. To adapt to a prolonged pandemic, universities will need flexible and reliable education models that will allow continuous adaptation to the various stages of the "new normal." COVID-19 has accelerated and activated long-standing pedagogical trends, creating a natural experiment in which numerous innovations are tested and evaluated. Early signs suggest that many innovations implemented during the pandemic will continue to benefit students after the crisis.

In the urgent organization of online education, particularly in Ukraine and the Ukrainian American Concordia University case, the problem of insufficient interaction between the participants of the educational process to preserve the ability to control learning, as it was in pre-pandemic times, became evident. In the new conditions of education, monitoring and setting restrictions on the workload of teachers, teachers, students, and apprentices are relevant. It is proposed to review the study plans concerning adaptation to distance learning correction of the types and quantities of tasks that can be completed and checked (educational time management). Setting time limits for computer work for teachers and students (for example, no more than 6 hours in case of full-time study and a break every 45 minutes of classes). Division of tasks into synchronous (in real time at meetings in Zoom, MS Teams, Google Meet, etc.) and asynchronous (homework), provision of clear instructions for their implementation, selection of appropriate online tools, etc. It is especially relevant for the school since the mode of mixed learning requires the teacher to have ready-made materials for both formats simultaneously and work with them in parallel, which overloads the educator.

The main priority today is no longer finding ways to overcome the short-term consequences of the COVID-19 pandemic but a carefully worked-out plan to change higher education for long-term sustainability. This unprecedented crisis heralds dramatic structural changes in colleges and universities' educational and business models. The main question is whether most universities want to return to the "normal state" of the past, as happened after previous crises, or are they willing to adopt and incorporate some of the disruptive practices they implemented during the pandemic?

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