


Special Issue

Education Technologies and COVID-19: Experiences and Lessons Learned

How the “Lessons Learned” from Emergency Remote Teaching Can Enrich European Higher Education in the Post-COVID-19 Era

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Abstract

More than 2.5 years after the outbreak of the COVID-19 pandemic and the lessons learned from the implementation of emergency remote teaching in (European) higher education, this essay reflects on how universities, governments, and policy makers can re-imagine higher education in the post-COVID-19 era. It envisions universities as inclusive, student-centered, and accessible organizations capable of meeting diverse learning needs through technology-enhanced high-quality academic programs. This can be achieved through wide-scale uptake of blended learning in higher education; capacity building for stakeholders on online/blended learning; consideration of the unique needs of its stakeholders; and a holistic quality assurance framework. The author’s proposal is evolving, and its elements can be adjusted to the strategic priorities and characteristics of each institution.

Keywords: *European higher education; COVID-19; emergency remote teaching; reimagining higher education; post-COVID-19 era*

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Introduction

It’s been more than 2.5 years since the outbreak of the coronavirus disease (COVID-19) began in the Wuhan region of China in December 2019. According to a recent report by the World Bank (Munoz-Najar et al., 2021), the pandemic affected the education of more than 1.6 billion learners around the world. In Europe,

since February 2020, most higher education institutions transitioned to emergency remote teaching (Hodges et al., 2020) to ensure continuity in student learning, even under sometimes fragmented national regulatory frameworks (Vlachopoulos, 2020). This led to deviations from the established rules and the processes in education and examination protocols at the country level, with implications for the quality of the programs of study. For example, while quality (higher) education is meant to be inclusive and meet students' diverse learning needs (Tanis, 2020; Noben et al., 2020), the speed at which emergency remote teaching and learning were developed made it less accessible for some learners, especially as far as access to learning resources is concerned. Similar challenges were identified in assessment, where we observed changes in the use of assessment methods; in the delivery of feedback; in students' involvement in assessment, as well as in the assessment criteria and standards (Panadero et al., 2021). These changes created uncertainty about whether they led to reliable and equitable assessment, which supports student learning.

After reviewing the plethora of studies published between 2020 and 2022 on the implementation of emergency remote teaching in higher education, I observe that indeed most institutions implemented an unplanned distance education practice (Bond et al., 2021). This practice involved using the resources available at the time and reproducing face-to-face instruction in the online environment. There is no doubt that this crisis in higher education amplified educational inequalities (Essel et al., 2021) since opportunities to access quality higher education were fewer and unequal. This is true even in Europe (Blasko et al., 2022), which has been building a common European Higher Education Area for more than 10 years.

This essay aims to reflect on the lessons learned from the implementation of emergency remote teaching in higher education and on how governments and policy makers can reimagine university teaching and learning in the post-COVID era. Its Bibliography presents a selection of impactful research studies, which were reviewed before the preparation of this essay.

Lessons Learned From the Emergency Remote Teaching During the COVID-19 Pandemic

Empirical and anecdotal evidence from the last two years shows that the impact and the quality of emergency remote teaching were different in countries and/or institutions that were stronger financially; those with fewer resources were left behind in terms of scale, monitoring, and measurement of the teaching and learning process during the COVID-19 pandemic (Munoz-Najar et al., 2021).

The complexity for both teachers and learners in accessing suitable technological resources during emergency remote teaching has probably been one of the most important lessons learned. Europe has put in place several actions to reduce inequality gaps associated with socioeconomic, ethnic, and geographic criteria. However, there are still large disparities among and within member states in income and achievement in education (Boke, 2021). Especially during the COVID-19 pandemic, we have witnessed people in all European countries being excluded from education due to the absence or important challenges in accessing digital education environments and/or learning materials and technological applications used in emergency remote teaching (European Center for the Development of Vocational Training [CEDEFOP], 2020). Moreover, teachers and learners with disabilities weren't sufficiently supported to access the necessary resources and to be included in the education process; this was especially true during the first months of emergency remote teaching. While countries and institutions with proper infrastructure managed to quickly identify how technology would meet the needs of students, several others couldn't provide significant support, especially to those with severe disabilities, those from low-income households, and those in remote rural areas (Madaus et al., 2021).

Another important challenge reported by teaching staff was the increase in workload required to create adequate conditions for learning. Without the necessary processes in place for fully remote teaching and

learning, teaching staff had to spend much more time managing the educational process and finding customized solutions for their learners (de Boer, 2020). Finally, the familiarization with new tasks in the new, fully remote environment, such as grading, group work, communication, meetings, and pastoral care, for example, also required additional time to ensure success (Phillips, 2021).

An additional challenge faced in higher education during the pandemic was the development of the teaching staff's digital skills and attitudes, which are required for effective remote teaching. The obligation of universities to engage in a transformation regarding how education is provided led to a new direction regarding digital practices and the requirements teachers needed to meet to be successful in the remote classroom (Madsen & Thorvaldsen, 2022). It has been a challenge for both teachers in training and those currently teaching in universities to gain expertise in information and educational technologies (Van Laar et al., 2017). Even though most European governments have invested in digital infrastructure in higher education over the last years, disparities persist, not only between countries but also within the same country (European Commission, 2020). Anecdotal evidence and research studies show that learners were offered a totally different experience even within the same program of studies due to the teaching staff's different levels of digital skills but also due to their attitude towards assuming the importance of technology (Ntshwarang et al., 2021). For example, highly motivated teaching staff, especially those with previous experience in online instruction, were focusing mostly on the advantages of technology and remote teaching and offered a more attractive and engaging learning experience, while those who didn't feel comfortable or motivated with this emergency education delivery model tended to transmit similar feelings and a poorer experience to their learners. The impact of these differences on learners hasn't been extensively investigated, but there is no doubt that it has caused inequalities in terms of achievement of learning outcomes, learner engagement, and learner satisfaction.

Another important lesson from the implementation of emergency remote teaching is the (negative) impact on the mental health and well-being of teachers. The increased workload and the need to develop digital skills contributed to an increase in stress and decreased motivation of even expert teachers (Abu Talib et al., 2021). Furthermore, teaching and working from home, despite the flexibility it offers, caused some challenges for teachers who needed to find new ways and patterns of work; this included obtaining suitable furniture, technology devices, reliable internet, and required space. This was further compounded by other family members also working and learning or simply being at home as well. In some European countries, such as the Netherlands, the institutions supported their staff in acquiring the necessary resources and tools to teach online, including stronger internet connection, suitable chairs and desks, and technology hardware. Moreover, lack of social interactions at work (Klimova, 2021) and lack of trust (Almaiah et al., 2020) in the systems in place that dealt with technology, security, and privacy led to emotional instability and demotivation for many teachers. Such emotional challenges were exacerbated in teaching staff with previous mental health problems (Vanderlind et al., 2020) and they are still impacting their professional practice in the post-COVID-19 era (Pressley & Ha, 2022).

Finally, several research studies have provided evidence from the learner's perspective that they lacked motivation and were not engaged (Stevanović et al., 2021); lacked interaction with peers (Coman et al., 2020); had poor communication with their teachers (Ives, 2021); lacked a sense of community and belonging (Raaper, 2021); and, in general, they felt helpless (Camilleri, 2021). Other credible sources report important changes in consumption habits of higher education students during the pandemic, which have a direct impact on their academic performance since they favor procrastination (Iglesias-Pradas et al., 2021). These findings highlight the importance of providing university students with robust educational and social support, especially considering that the psychological impact of COVID-19 is lingering even after its peak.

These challenges have raised serious concerns about the quality of education offered during the COVID-19 pandemic and about equity and accessibility issues as well. However, there is not enough data from students

and their experience before the transition to emergency remote teaching to conduct rigorous comparisons. Thus, how can these lessons learned enrich and improve higher education in the post-COVID-19 era?

Reimagining Higher Education in the PostCOVID-19 Era

Most universities have now returned to offering face-to-face, on-campus education. The conventional campus experience that was the pride of many educational institutions is losing its attraction and value from both teachers and learners (Naidu, 2021). This makes it a perfect time to reimagine teaching and learning in higher education and design the new normal. This new normal likely will include modified curricula and hybrid pedagogical models that will give learners more flexibility and will adapt to their needs. Flexible learning requires, of course, teachers who are properly trained in pedagogy and technology so they can enhance active learning and promote student engagement.

In this new normal, availability of and access to technology are fundamental but not the only conditions for quality education. The combination of educational technology with pedagogical frameworks and theories can enrich teaching and learning and provide an engaging and effective learning experience. Teachers are key to the success of the education process; they need to develop a set of transversal competencies, including digital know-how, communication, and collaboration models in addition to subject matter knowledge (Vlachopoulos & Makri, 2021). Collaborations between the public and the public sector will ensure the resources needed for these transversal competencies to be developed in every institution offering equal opportunities for all.

Teaching and learning is an intense human interaction endeavor (Munoz-Najar et al., 2021) and, thus, it needs to allow for effective interaction between teachers and learners, between learners and learning resources, and among learners. Such interactions can be enabled both in the classroom and online, facilitated by technological tools suitable for the local context. The institutions and/or governments should account for access and suitable use of information and educational technologies among both teachers and students.

The role of policy redesign and development around the needs of all the key stakeholders (teachers, learners, administrators, leadership, and support staff) is fundamental. Governments need to create a dynamic ecosystem of collaboration to discover those policies that are dated or inadequate and to effectively coordinate the stakeholders for the design of a quality, flexible, and open educational environment. Cooperation across the different governmental departments and collaboration between the private and the public sector is vital to the success of this ecosystem.

Transparency and trust are also key for post-COVID-19 higher education. Policy and decision makers need to take into consideration that students and teachers did not opt for a fully online teaching and learning experience. Any enhancement of the conventional, on-campus education with online and digital elements needs to take place through a transparent process of proper justification and smooth integration into the institution's pedagogical model. In addition, this process requires trust among the stakeholders that everyone's intention is to achieve accessible and quality education.

For many teachers and learners, universities are places of socialization and exchange of ideas. Without those two components, they are not an attractive place to work or study. Development of human relations on campus should still be a priority with additional options of digital communities and online networking.

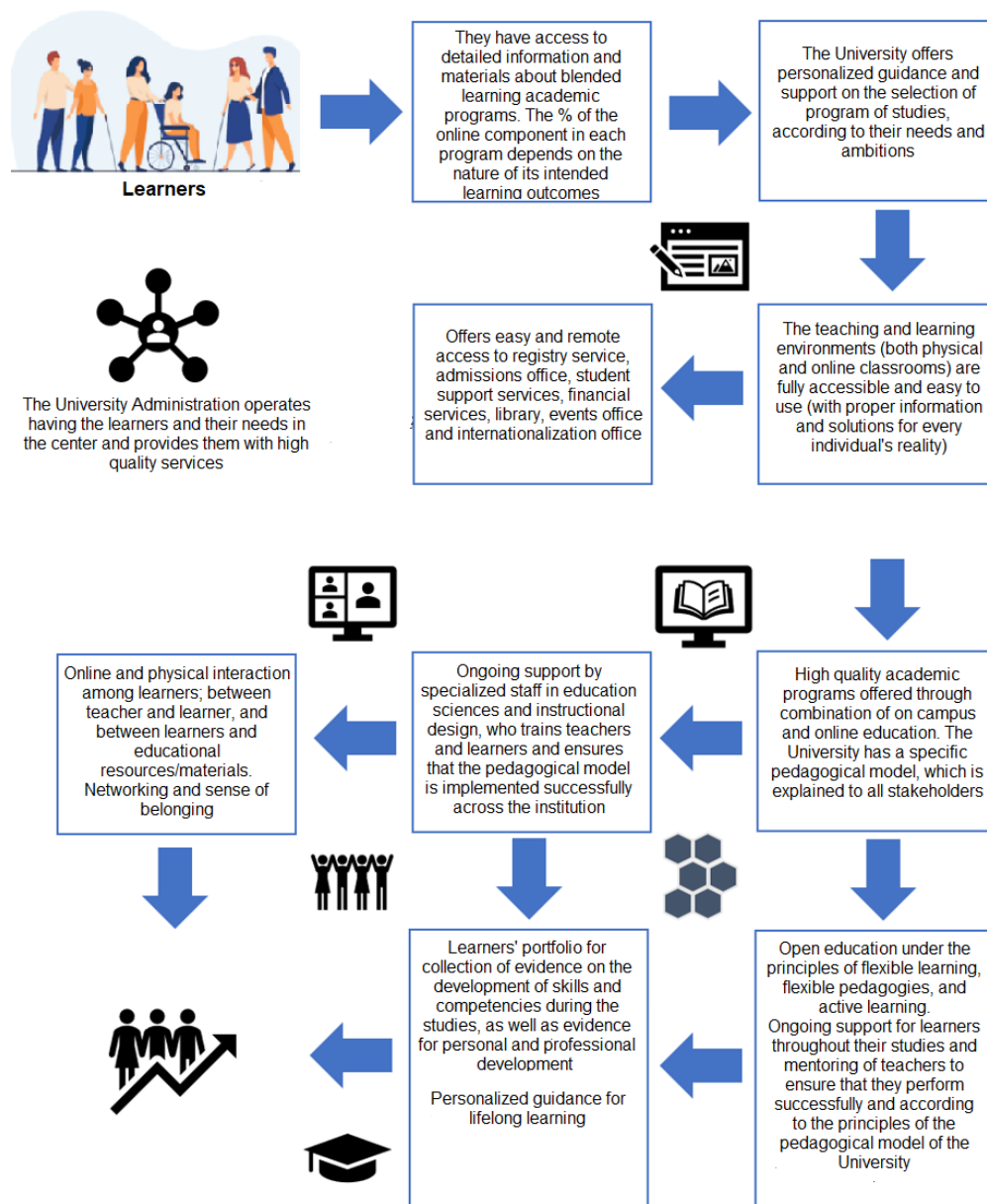
The creation of support structures for both teachers and learners will ensure the success of university education. These structures include support related to the selection, adequacy, and use of technological tools and applications to be used in education; mental health support for teachers and learners; pastoral care for learners; financial support and advising for those who struggle during the current challenging times; disability support for teachers and learners with physical, psychological and/or sensory disability, chronic disease or

any other condition; and administrative and logistic support for both learners and teachers so they can focus on their primary task—to teach and learn without disruptions.

Conclusion

During the last two years, we have witnessed a variety of educational experiences that have been documented in research papers. Technological capacity has been built across higher education institutions, as well as new ways of teaching and learning through technology. This essay envisions widescale uptake of blended learning in higher education; capacity building for stakeholders on online/blended learning; consideration of the unique needs of its stakeholders; and a holistic quality assurance framework. This will ensure learners achieve the intended learning outcomes prescribed in their academic programs and that they develop key personal and professional skills. Figure 1 illustrates a dynamic proposal for higher education in the post-COVID-19 era. It envisions universities as inclusive, student-centered, and accessible organizations, which are capable of meeting diverse learning needs through technology-enhanced high-quality academic programs. The proposal is evolving, and its elements can be adjusted to the strategic priorities and characteristics of each institution.

Figure 1. *Dynamic Proposal for the University of the Post-COVID-19 Era*



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