

Transforming Instruction in Global Higher Education: Online Learning as Innovation During A Pandemic

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Abstract

The COVID-19 pandemic made the business of global higher education more complicated and competitive each day. Globalization with changes in the world's economy, increasing diversity, the ubiquitous use of technology, and the COVID-19 pandemic are impacting higher education in ways no one could have predicted. The sudden move of instruction to online learning presents tremendous challenges for global higher education institutions. Adding the precarious nature of face-to-face instruction as a result of the pandemic, the future is complicated with most universities using online learning as an innovation to continue instruction. The road ahead for global higher education is filled with questions, hazards and uncertainties that began before the pandemic but was exacerbated with the sudden move to online learning.

Keywords: online instruction, global higher education, COVID-19, innovation, transformation

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Introduction

The global COVID-19 pandemic is the type of external force that transforms organizations: either devastating them or fostering resiliency (Alvarez, 2020; Dhawan, 2020). COVID-19 has led to an unprecedented challenge for society due to the uncertainty and chaos created around the world (Evans, 2020; Lemoine & Richardson, 2019, 2020; Radha et al., 2020). Global higher education institutions were forced to move rapidly from face-to-face class to online learning, to stay viable (Amemado, 2020; Mukherjee, 2020). Closing universities and taking students and lecturers out of the classroom was a pedagogical transformation that required rapid mobilization across all university staff and resources (Alea et al., 2020; Cutri & Mean, 2020; Houlden & Veletsianos, 2020; Mallillin et al., 2020). Higher education institutions during COVID-19 faced the unique challenges of smoothly maintaining the process of learning while ensuring that it was still beneficial (Richardson et al., 2019; Robertson, 2019).

Administrators and faculty skeptics concerned about the efficacy of online learning soon gave way to adaptation as most higher education institutions quickly moved instruction to fully online

programs, whether institutions, staff, faculty, and students were ready or not (Johnson et al., 2020; Mittal et al., 2021). The onset of the COVID-19 pandemic did not provide institutions the luxury of planning and implementing strategic change efforts (Mishra et al., 2020; Naciri et al., 2020). Transformation happened very quickly, but not easily (Watermeyer et al., 2020). This transformation continues as global higher education attempts to stabilize the present while continuing to deal with the ongoing challenges of the unknown (Murgatroyd, 2021; Ralph, 2020; Zhu & Liu, 2020).

Higher education today faces its greatest combinations of challenges: economic uncertainty, quality assurance, globalization and the pandemic overlaid by the need to use technology for learning during the pandemic (Bhagat & Kim, 2020; Pucciarelli & Kaplan, 2016). While global higher education institutions faced a number of opportunities and challenges as the result of a digital technology revolution, none were as daunting as the need to respond to the COVID-19 pandemic through the immediacy of online learning (Chea et al., 2019; Lemoine et al., 2021b).

With the advent of the COVID-19 pandemic, most global higher education institutions were forced to quickly adapt

online learning for all students (Tereseviciene et al., 2020; Tutton, 2020). The key question was whether or not the institution, faculty, staff, and students, were prepared for the transition (Green et al., 2020; Houlden & Veletsianos, 2020). Most were not. The move to online learning presented unprecedented challenges not only for students who needed technical assistance, but also for faculty who had to reinvent themselves as technology proficient teachers to enable the continuation of learning (Adedoyin & Soykan, 2020; Nabukeera, 2020).

Disruption is the force that permitted global higher education to expand and prosper, and online learning is viewed as a major competitive advantage in global higher education by enhancing university effectiveness and enabling sustainable development (Olusola, 2020, Waller et al., 2020). The development and implementation of online learning provided competitive opportunities that irreversibly revolutionized approaches and methods used in global higher education (Altbach et al., 2019).

Disruption, driven by COVID-19, presented a tremendous challenge for global higher education institutions (El Masri & Sabzalieva, 2020). COVID-19 led to significant changes in universities

regarding the processes used for teaching and learning where online learning introduced considerably greater agility and capacity for delivery into courses, programs, and institutions (Lemoine et al., 2021b; McCormack et al., 2021). COVID-19, as a dynamic and disruptive force, became a major contributor to the expansion of online learning in global higher education (Mallillin et al., 2020).

The Importance of Online Learning during Pandemic

Online learning was not new, but in the United States less than 20% of students were enrolled in online instruction (Waller et al., 2020). The changing context of global higher education necessitated online learning to impart knowledge and skills essential to prepare students for the future (Witze, 2020). Innovative teaching/learning practices were needed to develop skills needed to succeed in life and the workplace in 21st century (Baliga, 2020).

However, online learning methods played a key role in allowing university education to continue despite the current uncertainty concerning the ultimate duration of the crisis, and the challenges posed by the COVID-19 virus (Paudel, 2021; Waller et al., 2019, 2020, 2020a,

2020b; Yan, 2020). Global higher education (GHE) institutions adopted online learning as a means of enabling students to access the knowledge and skills required to meet the demands of a global environment overlaid by the COVID-19 pandemic (Zimmerman, 2020). COVID-19 became the driver of innovation in the delivery of online learning, replacing most of face-to-face instruction in higher education (Korkmaz & Toraman, 2020; Yordanova & Stoimenova, 2020).

Some have speculated that online learning is both a disruptor and an innovation for higher education (Rege Colet, 2017). Innovation refers to adding extra components to developing new services in the public that fulfill unaddressed needs or solve problems that were not present in the past (Jee, 2020). However, not all innovation is successful. Therefore, online learning must be critically examined and assessed to determine its value in higher education, both during COVID-19 and its potential post-pandemic because innovation in learning is necessary to maintain the development of world education (Lemoine et al., 2021a, 2021b; McGowan, 2020).

In the face-to-face instructional system, teaching methods were teacher-centered without taking into consideration the students' needs and interests (Adnan

& Anwar, 2020). Verrawardina et al. (2020) speculated online learning involved the student as teacher and learner, meaning that the student primarily learned on their own. In an online learner-centered environment, a change in pedagogy was required where the needs of students included more collaborative and interactive experiential learning, which researchers suggested results in greater learning on an individual level (Kedra & Kaltsidis, 2020; Kilgour et al., 2019; Sofi & Laafon, 2020).

In order to cater to student diversity and to promote engagement, online teaching needed to be able to manage and address the diversity which arises due to the massification and the internationalization of global higher education (Robertson, 2019). A wider range of both learning styles and a wider range of language, cultural and educational backgrounds were required to engage all students particularly when the vast majority of those students were studying at a distance (Chea et al., 2019). New technologies enabled learning to be a phenomenon of participated and shared intelligence enhanced by online learning (Albrahim, 2020; Huda et al., 2018).

Adopting and adapting to an online learning environment was not just a technical issue (Johnson et al., 2021). It was

a pedagogical and instructional challenge (Alea et al., 2020). As such, ample preparation in regard to teaching materials and curriculum and assessment knowledge was vital in online education (Ananga, 2020). Student engagement required the instructor to become more of a facilitator of learning than a dispenser of information (Bahasoan et al., 2020; Dymont et al., 2020).

To adapt, significant percentages of global higher education institutions migrated most of their instruction to online as a result of COVID-19 (Rumbley, 2020; Watermeyer et al., 2020). This paradigm shift offered enormous potential for advancing educational quality, quantity, efficiency, effectiveness, and productivity (Daniela et al., 2019; Rege Colet, 2017).

Technology was the means for delivery and required a close cross-collaboration between instructional, content, and technology teams (Lemoine & Richardson, 2020; Lemoine et al., 2020). Many of the problems encountered by students in their online learning classes were linked to internet connection and digital devices which affected academic performance from students who were both adjusting from a traditional classroom setting to online learning setting (Cicha et al., 2021). Therefore, the availability of technology needed to satisfy the needs of student in their online classes which

increased substantially their knowledge in online learning process (Broadbent, 2020; Carver, 2020; Gallegher, 2019).

With the development of online teaching and learning, an equity issue was involved with home environment, hardware and software, and internet accessibility (Daniela et al., 2019; Dziuban et al., 2018; Goldin & Katz, 2018; Marasi et al., 2020). Teachers teaching online and students studying online might not be able to find suitable spaces for teaching and studying at home (Aucejo et al., 2020). Some of them might not have the right hardware and software at home to participate in teaching and learning (Baber, 2020). Some students may live in remote areas where the access to reliable networks for online education was not available (Gulati, 2020; Jee, 2020).

The Role of Global Higher Education

The process of producing employable graduates to adapt to a rapidly changing and diverse world of work emphasized the need for appropriate skills and competencies for graduates. Upon completion of their education, students needed to become fully functional professionals equipped with the skills needed in the real world (versus the study environment) (Zhao, 2020; Zhao & Watterson,

2021). Thus, in order to prepare qualified graduates, faculty should know the skill demands of the globalized world (United Nations, 2020). Global higher education should prepare specialists who can meet the needs of society with specific skills and knowledge (Waller et al., 2019).

Online learning is a major competitive advantage in global higher education by enhancing its effectiveness and enabling sustainable development (Gardner, 2021). Online learning has permitted higher education to go global and greatly expanded markets and opportunities for revenue generation (Khoo, 2019). Higher education institutions are attempting to develop the capacity to adapt and modify to the new models of knowledge and information transmission (Lederman, 2020; Lemoine et al., 2021a). Thereby technology-mediated online learning will almost certainly provide the dominant means by which 21st education is delivered, received, and evaluated (Vlachopoulos, 2020; Yan, 2020). However, rapid technological, cultural, societal changes, and COVID-19 made it challenging for global higher educational institutions to catch up with these innumerable and frequently radical shifts which forced universities to revise their curricula and approach to the teaching

process (Lemoine & Richardson, 2019, 2020; Pucciarilli & Kaplan, 2016; Ribeiro, 2020).

Today more emphasis is also drawn to the needs of students during the pandemic (Arulkadacham, 2020; Tan, 2020). Faculty should see their students as individuals and provide more personalized attention, care, and instruction (Gratz & Looney, 2020; Roy & Covelli, 2021). Also, new forms of students' performance evaluation should shift towards a more comprehensive approach (Abernathy & Thornberg, 2020; Abou-Khalil et al., 2021; Rizvi & Nabi, 2021). Alternative online assessment provides students with an opportunity to demonstrate the depth and scope of their knowledge rather than being limited to just a few responses on a traditional test or exam (Abernathy & Thornberg, 2020).

Technology, especially the internet and mobile devices such as tablets and smartphones, have become ubiquitous in society (Bechtel et al., 2021). With the internet, students can access primary source documents, research just about anything, and support their own understanding with explanations accompanied by video, animations, or other helpful visualizations especially using online learning during the pandemic (Abernathy & Thornburg, 2020). Another

technological change is the use of virtual and augmented reality (Peters, 2019). Technological advancements are not just for experimentation purposes; they are meant to push efforts towards student development in an online environment (Bechtel et al., 2021).

Global higher education institutions are moving away from rote learning toward valuable skill-based wisdom. By presenting students with deeper-level questions and instant access to almost infinite data and information, online faculty are able to encourage students to become inquisitive problem-solvers and innovators. Online learning is revising pedagogies so that online teaching and learning not only enhance online faculty basic skills and learning but should also play an important role in student growth and economic growth of the country (Penprase, 2018).

Online Teaching and Learning

Before the COVID-19 crisis many faculty members used traditional in-person teaching models and were not comfortable or knowledgeable with the skills to effectively teach students online (Cutri & Mena, 2020). The course material of classes taught through online learning pre-COVID-19 were well-prepared, un-

like during COVID-19 where courses were not originally planned to be taught through online learning (Riggs, 2020).

Many faculty members did not have the adequate training or experience to properly adjust to the transition to online learning (Karalis, 2020; Karalis & Raikou, 2020). Global higher education institutions need to make sure the knowledge and skills necessary to teach online are implemented in faculty preparation and considered a necessary skill for faculty (Kumar & Kumar, 2020; Kumar et al., 2017; Rapanta et al., 2020). Faculty insufficiently trained and prepared to teach online courses had difficulties in adapting their syllabus for online learning or did not have access to adequate technological resources as they were uninformed in the operation of online platforms (Sánchez Ruiz et al., 2021; Simamora et al., 2020).

Enhancing teaching and learning during the pandemic requires careful attention to ensure that there is optimization of the range of currently available resources (Bozkurt & Sharma, 2020). The process of optimization requires working with existing organizational cultures to achieve effective change, to adapt the available technologies, and to ensure the collaborative participation of educators and learners throughout the

process (Dyment et al., 2020). There are four primary considerations in designing online learning and optimizing it: 1) learning structure, 2) content presentation, 3) collaboration and interaction, and 4) timely feedback (Rapantha et al., 2020). The challenge for universities around the world becomes how to improve the quality of online teaching and adequately prepare their faculty for on-line teaching (Shenoy et al., 2020).

Online learning has facilitated collaborative learning and teaching by bringing global education resources to students and faculty (Bhowmik & Bhattacharya, 2021). Additionally, one of the promises of online technologies is that institutions can increase access to non-traditional and underserved students by bringing a host of educational resources and experiences to those who may have limited access to on-campus-only higher education (Khoo, 2019).

Online learning is the most logical and natural evolution of the changing learning agenda because it has been so widely adopted during the COVID-19 pandemic (Orakcı, 2020). It provides a dynamic solution to the challenges of adapting learning and development to the needs of individuals (Dziuban et al., 2018; Francis & Santhakuman, 2020). And it represents an opportunity

to integrate the innovative and technological advances with the interaction and participation offered in the best of traditional learning (Aljawarneh, 2020; Koçoğlu & Tekdal, 2020). Based on the argument that online learning cannot only take place under the situation of the COVID-19 pandemic, it is an alternative and innovative learning model from the institution, technical and instructional aspects (Almaiah et al., 2020)

This is a period of significant change in global higher education as universities attempt to respond to the challenges, opportunities, and responsibilities present in this global society as a result of COVID-19 (Arora & Srinivasan, 2020; Mardiana, 2019). These changes are driven by forces which are almost impossible to predict. Therefore, the most critical challenge facing global higher education leaders is how to develop the capacity for change because change is inevitable (Richardson et al., 2017; Richardson et al., 2019).

What is the Future for Global Higher Education and Online Learning?

Given the problems caused by COVID-19 in the world, online education is the best method to continue learning due to the key constructs of service,

cost, quality, and efficiency (Ali, 2020; Altmann et al., 2018). The importance of online education has become more apparent than ever before; therefore, it is essential to pay special attention to the appropriate communications required for online learning (Francis & Santhakuman, 2020). In global higher education, online learning is about creating direct connections among people through applications of technology (Goldin & Katz, 2018; Tasci, 2021). Consequently, the focus needs to be on flexibility, learning and development of new knowledge instead of specific solutions (Garcia-Morales et al., 2021).

Closing Thoughts

Online Learning Ensures Continuous Knowledge Transfer

What is the future for higher education and online learning while continuing to face COVID-19? The pandemic is not over so how will universities adapt? Will some open for face-to-face instruction and face renewed outbreaks? Will others stay completely online? The future is unclear except for one thing. Online education is now essential for global higher education and online learning will continue to be a reliable method for advancing instruction in higher educa-

tion because universities are forced to increase their online learning capabilities for the quality implementation of educational programs (DeVaney et al., 2020; McQuirter, 2020).

Online learning in the face of global disturbances (wars; climate crises; pandemics) remains the only way to ensure continuous knowledge transfer.

Technology Preparation for Continuous Challenges

The lesson has been learned. Prepare faculty, students, and administrators for further instructional interruptions, especially the use of online learning (Fernandez & Shaw, 2020; Johnson et al., 2021). This requires the academy to rethink and restructure, both what and how they teach, and how they intersect with society, particularly using technology and online learning during the COVID-19 pandemic (Albrahim, 2020; Garretson et al., 2020).

Online Learning Prepares Students to Meet Future Society Needs

Online learning needs to provide a connection to skills needed by graduates.

Students need to be prepared to be members of the digital workforce – students, as digital users, must be prepared

to meet the challenges they will face, 21st century employees who are digitally knowledgeable, productive and can adapt to disruption and change.

Therefore, alternative methods of evaluating the success of the 21st century learners, graduates, need to be adopted. Effective utilization of technology provides methods to decrease organizational vulnerability to disruptions like the pandemic by reducing costs, and enhancing adaptability (Bhowmik & Bhattacharya, 2021; Blankenberger & Williams, 2020).

Continue to Develop Innovative Online Models

During COVID-19, many institutions examined their carefully constructed business continuity plans and immediately recognized their deficiency in the face of global crisis (Abdulkareem & Eidan, 2020; Major, 2020; Mondol & Mohiuddin, 2020). Global higher education institutions need to develop the capacity to innovate, adapt, and modify online models of learning. Higher education should focus on the quality of learning, the commitment to bring solutions to society and the effort to protect and advance knowledge and civilization (Baliga, 2020; Marshall, 2018). Survival for global universities means adapt,

innovate, or get left behind (Karalis, 2020). Adapting to the use of online learning may be one of the primary innovations necessary for the future of global higher education (McGowan, 2020).

Conclusions

- (1) Online education is now essential for global higher education. A significant percentage of global higher education institutions has migrated most of their instruction to online. Institutions of global higher education have found that online programs are essential in providing access to education for the populations they wish to serve. The success of online learning is reliant upon the design and development of the course content, continuous interaction between the faculty and students, and the preparedness of faculty for online instruction. The rapid transition of online learning demands that faculty will be prepared and should be able to use online technology.
- (2) To stay viable global higher education institutions should prepare for newer, emerging disruptive events like COVID-19.

- (3) Teaching methods that were teacher-centered should become learner-centered to increase success for students in the global workplace.
- (4) There is a widening gap between the model of learning offered by many global universities and the natural way that young people learn digitally.
- (5) Online learning presents an opportunity for global colleges and universities to consider new ways of increasing access while remaining personal and affordable.
- (6) COVID-19 and the rapid move from face-to-face instruction to online learning provides the greatest opportunity to objectively evaluate the legitimacy of online learning.
- (7) Success for global universities requires modification and adaptation during and after COVID-19 where they balance fragility and resilience. In a time of COVID-19 when ecological, social, cultural, educational, and economic challenges require innovative solutions and new concepts, global higher education must deliver both creativity for sustainability and resilience for accountability.
- (8) The road ahead for higher education is filled with challenges, risks, and uncertainties, but there are also great opportunities for growth and success.

To conclude, there are advantages and disadvantages of campus-based education versus online education. For campus-based education, the greatest advantage is the face-to face interaction while the major disadvantage is the investment of travel time and expenses. On the other hand, online education offers learners with the scheduling flexibility and larger selection of courses. However, most online learners are challenged with technology availability and difficulties in addition to the feeling of isolation. The advantages and disadvantages of campus-based versus online education are highlighted in Table 1 and Table 2 in the following:

Table 1

Advantages of Campus-based versus Online Education

| Campus-based Education | Online Education |
|---|--|
| Face-to-face contact with faculty, other students, and advisors | More flexibility for students who work |
| More connections to campus activities | Capability to complete assignments at times when it is most convenient |
| More convenient for hands-on participation | Less expensive, no housing |
| Long history of campus-based education | More convenient for adult students |
| More interactions with people | Availability of online learning resources |

Table 2

Disadvantages of Campus-based versus Online Education

| Campus-based Education | Online Education |
|----------------------------------|---|
| Less options in class schedule | Little direct contact with students and faculty |
| Not cost effective | Limited campus activities |
| Travel to and from campus | “Technical complications” |
| More expensive (housing, food) | Cost of computer and soft ware |
| More opportunity for distraction | Feelings of isolation |
| | More opportunities for interruptions in class time and study time |

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