

Student Experiences and Equity during Emergency Remote Teaching in U.S. Higher Institutions: A Literature Review

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Abstract

In response to the spread of the COVID-19 pandemic, educational institutions worldwide broadened their use of online delivery modalities to maintain continuity of instruction. This article provides an overview of research that explores students' experiences of emergency remote education (ERT) in the context of U.S. higher institutions and sheds light on students' perspective of ERT, the opportunities and challenges it brought, and its impact on educational equity. It also offers insight into measures institutions could pursue to deal with the challenges they encountered. Findings indicate that ERT transcended time and geographical limitations and afforded students' flexibility and convenience to schedule their learning. In general, students perceived colleges to be supportive, particularly their instructors. However, being forced to study online with limited access to university resources (e.g., financial aid, academic advising, and mental health), less contact with instructors and peers, and experiencing increased mental burden, made the learning experiences largely unpleasurable. The rushed digitalization of education put the vulnerable student population in a more disadvantageous position. Recommendations such as improving technology infrastructure, preparing educators for online teaching, cultivating an inclusive pedagogy, facilitating social interactions, and teaching with care and empathy are also summarized.

Keywords: emergency remote teaching, COVID-19, equity, online learning, higher education

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The outbreak of COVID-19 affected nearly every sector of life and brought about a digital revolution in the field of higher education (Strielkowski, 2020). As Susan Grajek said in an interview with EdScoop, "I suspect that one of the biggest impacts ... will be on the culture of higher education and its ability and willingness to collaborate across the many areas and to become more agile at making change because we've all changed extraordinarily rapidly" (Foresman, 2020). After the World Health Organization (WHO)

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declared COVID-19 a global pandemic in March 2020, colleges and universities worldwide began strategizing about different modes of education to ensure that students were not left idle (Montgomery, 2021). A rushed shift from face-to-face (F2F) instruction to emergency remote teaching (ERT) thus occurred (Hodges et al., 2020). Faculty members were compelled to digitize complex curricula or develop new course syllabi without adequate preparation and training (Armstrong-Mensah et al., 2020). Students were thrown into compulsory distance learning, departing from their residence halls without equitable access to digital tools and learning resources (Njoki, 2020). Though institutions strived to ensure the continuity of learning for all students, effectively running ERT was challenging. Lassoued et al. (2020) summarized four significant barriers to effective ERT: (a) students' ill adaptation; (b) pedagogical impediments in evaluation; (c) technical difficulties such as poor internet connectivity; and (d) financial and organizational obstacles like lacking digital devices.

As we approach the new normal in the post-COVID-19 era, colleges and universities around the world have begun offering partial remote learning (hybrid learning) and are expanding their online programs. This is a critical moment to listen to students' voices on ERT, identify the potential and challenges involved, and apply the lessons learned to the planning of future educational practices. A further consideration of digital equity and educational inclusion is also necessary, as remote attendance requires reliable technology access and sufficient digital skills, and the digital divide disproportionately affects those from marginalized communities (Daoud et al., 2021).

An investigation of extant literature indicates that most of the existing reviews on ERT mainly concern teaching and learning practices (Darras et al., 2021), instructional practices and effectiveness (Nieto-Escamez & Roldán-Tapia, 2021), service quality (Anthony, 2021), and learning and mental health (Mao et al., 2021). Some focus on a certain discipline, such as teacher education (Carrillo & Flores, 2020) and dental science (Chavarría-Bolaños et al., 2020). Some do not exclusively deal with ERT. In addition, most reviews are situated in K-12 contexts (Daoud et al., 2021). Reviews that provide an extensive description of U.S. college students' experiences during the pandemic are lacking. To address the gap, this paper synthesizes relevant studies and reports on the topic in the setting of US higher education. Through a meticulous examination of students' perceptions, needs, experiences, resources, and the situated environment, we aim to present a holistic picture of college students' education and engagement with ERT. In analyzing the opportunities and challenges of ERT for learners, we pay special attention to equity and inclusion issues.

Examining student life during ERT could help us understand the limits and potentials of the existing crisis-response migration strategies and online learning (OL), increase knowledge on how to better prepare for future crises (Hodges et al., 2020), and create an effective, productive, and inclusive learning environment for all learners. The research questions that guided the study were:

1. What were college students' experiences with ERT during COVID-19 in U.S. higher education?
2. What were the suggestions made in the articles reviewed for improving online education in higher education?

In the following sections, we first explain the differences between OL and ERT and introduce the concept of digital equity. Then we present the results on the students' perceptions of and responses to ERT. Based on these results, an in-depth discussion is conducted. After that, we summarize the recommendations put forward by the authors of the studies and propose how higher education institutions may leverage the knowledge gained to increase the effectiveness of remote learning and better prepare for future crises.

Online Learning (OL) and Emergent Remote Teaching (ERT)

Online Learning

OL has its origin dating back to the 1980s and a boom in the late 1990s and early 2000s (Ribeiro, 2020). It is a type of distance education taking place over the Internet and involves the use of computers or other electronic devices. With a few mouse clicks, students can attend class virtually, listen to lectures live or asynchronously, practice newly acquired knowledge, and receive feedback from instructors and peers (Armstrong-Mensah et al., 2020). Ribeiro (2020) observed that online learning is “a nice-to-have option” because it allows education to transcend constraints of time and physical location. Though the initial set-up of technologies is expensive, OL lightens the financial load in the long run and increases scheduling flexibility for learners who also have other part-time or full-time commitments (Armstrong-Mensah et al., 2020; Fedynich, 2013).

Nevertheless, the expansion of OL has been “a mixed blessing” (Fedynich, 2013). Although backed up by advanced information and communications technology (ICT), OL has yet to fully embrace the personalized teaching and learning that technology could provide (Saba, 2012). OL platforms, modes of instructional delivery and interaction, digital tools, and the type of support are usually not optional for learners, making it hard to adapt to personal learning styles and address individual needs. Hence, it comes as no surprise that online courses have a greater dropout rate than F2F education, though its root causes could be multifaceted (Patterson & McFadden, 2009).

Researchers point out that maintaining a high-quality and effective online education necessitates an inclusive, active, and student-centered approach that does not exclude any learners (Castelli & Sarvary, 2021) and demands a systematic approach in planning, design, development, and implementation (Hodges et al., 2020; Moore & Kearsley, 2011; Saba, 2012). OL is by no means merely moving the instructional materials and activities to a virtual classroom. According to the book, *Learning online: What research tells us about whether, when and how* written by Means et al. (2014), in planning and designing OL, the following nine dimensions need to be taken into consideration: (1) modality; (2) pacing; (3) student-instructor ratio; (4) pedagogy; (5) instructor role online; (6) student role online; (7) online communication synchrony; (8) the role of online assessments, and (9) source of feedback. Clearly, to achieve the desired learning outcomes, OL should be deeply rooted in adequate planning and instructional design informed by established theories and evidence-based practice.

Emergency Remote Teaching

With the rampant spread of COVID-19, ERT became “a mission-critical model” which helped ensure the continuity of education (Ribeiro, 2020). Under such circumstances, an attitudinal paradigm shift towards online education and reconsidering its value and viability is essential, particularly for members of higher education (Ribeiro, 2020). ERT could be defined as providing temporary access to instruction and support in a rapid, reliable, and contextually feasible manner during an emergency or crisis (Hodges et al., 2020). It does not involve recreating a comprehensive educational ecosystem (Hodges et al., 2020). According to Mohammed et al. (2020), ERT “comprises ultimate exploitation of the available remote teaching tools for delivering the curriculum or educational materials that would normally be delivered physically or as hybrid or blended courses [...]” (p. 2), and thus requires more innovation, flexibility, and responsiveness from the higher education system (Chick et al., 2020; O’Shea et al., 2021).

ERT differs from the “normal” OL in which faculty are well-prepared to deliver online instruction, and students select their online courses as they did prior to the pandemic (Katz et al., 2021). ERT, promoted by COVID-19, compelled a rapid transformation that essentially denied students’ choices, regardless of their needs, motivations, and competencies, and made remote OL the only means for engaging in class and continuing with coursework. Additionally, the swift shift from F2F learning to ERT deprived faculty of adequate time to meticulously plan and design courses, which is essential for ensuring high-quality online learning (Hodges et al., 2020). Consequently, ERT encountered immense obstacles and challenges in practice, as aforementioned.

Digital Equity

Educational equity means the education process is fair, namely, all students can access the educational resources and learning opportunities they need (The Glossary of Educational Reform). Advancing educational equity has long been at the top agenda of schools and educators. The rapid transition to ERT has brought digital equity to the forefront, as ICTs are increasingly implicated in online teaching and learning and are essential to the maintenance of social structure (Beunoyer et al., 2020). Resta et al. (2018) define digital equity in the following five dimensions:

- Access to hardware and software, and Internet connectivity
- Access to meaningful and culturally relevant content in local languages
- Skills in generating, distributing, and exchanging digital content
- Support from educators who are proficient in using digital tools and resources
- Research-based knowledge about the application of digital technologies to enhance learning

Obviously, digital equity is more than just digital accessibility; it also encompasses digital competence, the quality of engagement, instructional resources, and support (Katz et al., 2021). Research indicates that meaningful access to the internet, multimedia resources, and parent mediation can be advantageous for promoting learners' academic performance (Robinson et al., 2020). As OL expands, how to close the digital gap and bring digital equity into education is an urgent task for institutions and educators, as no one should be left behind, intentionally or not (Qadir, 2020).

Methods

We conducted a comprehensive search of peer-reviewed journal articles on ERT during the pandemic in September 2021 across three databases: Education Research Information Center (ERIC), Web of Science Core Collection, and Google Scholar. No start date was specified. A combination of the terms was used: *distance* or *remote* or *online* or *emergent*; *teaching* or *learning* or *education*; *Covid* or *pandemic*; *US*; *university* or *college* or *higher education*. We did not limit our reviews to specific aspects or subject matters of education, as few studies satisfied the requirements, and we also considered research reports published by leading research institutes that collected large-scale survey data. In total, 51 potentially relevant pieces were identified. Then, the titles and abstracts of the articles were screened to remove less relevant pieces, reducing the total to 33. Next, a bibliographic search was undertaken by branching out from the reference list of the located articles. Following that, a full-text screening was performed based on the following inclusion criteria: (a) articles reporting empirical studies on student experiences of ERT during the pandemic or communication papers on the topic; (b) articles published in peer-reviewed journals or produced by reputable research institutions; and (c) articles written in the context of US higher education. Those that did not provide sufficient discussion on students' learning experiences of ERT were excluded. As a result, a total of 23 articles were included in the analysis. After the selection, following a grounded theory approach (Strauss & Corbin, 1997), each article was carefully read, highlighted, and coded by labeling the content, grouping for patterns, and summarizing for themes.

Student Experiences During ERT

In this section, we present the results of the review, organized according to the themes that emerged concerning student experiences during ERT: educational process, technology use and digital skills, and health and wellbeing.

Educational Process

During the pandemic, students attended classes that operated remotely or in a blended model to follow social distancing guidelines. That means, instead of attending in-person lectures, the vast majority of students received learning materials via the learning management system (LMS), joined synchronous live sessions, and/or watched

asynchronous recorded videos of lectures (Johnson et al., 2020). With in-person academic activities being almost supplanted by the remote learning mode, the educational landscape shifted dramatically. Below, we summarize how the educational process was altered and adapted to ERT and its impact on learning from students' perspectives regarding curriculum and pedagogy, assessments, interactions, motivation, and engagement.

Curriculum and Pedagogy

Results indicated that the hasty adaptation of ERT increased instructors' workload and simultaneously placed learners amid greater uncertainties. Students reported that acquiring the knowledge of subject matter and performance assessments were the most worrisome at the early stage of the shift (Loepp, 2021). However, generally, students did not experience major differences in terms of customarily delivering course content via lectures or discussions (Kim, 2020), though some courses were restructured to adapt to the revised curriculum (Flaherty, 2020). Specifically, students in courses that require hands-on practices experienced more difficulties. For instance, chemistry majors were deprived of the opportunity to manipulate equipment (Kolack et al., 2020), and education majors lost the chance to teach in-person in local schools (Kim, 2020). Medical school students' clinical rotations were also postponed and cut short (Calhoun et al., 2020). Nonetheless, alternatives were developed, though not sufficiently satisfying. For instance, student teachers were provided with opportunities to practice teaching online before joining virtual classes with young learners, with the added benefit of peer observing and debriefing (Kim, 2020). Meanwhile, medical students participated in telemedicine clinics paired with virtual surgical education, which allowed them to hone both visual and verbal skills (Ehrlich et al., 2020).

Besides, most instructors changed their pedagogical practices to make ERT more effective, many pursuing a flipped-classroom approach. Instructors provided pre-recorded video lectures or online tutorials for students to watch before the online session, and students were to arrive at class prepared for discussion and application of the knowledge (Chick et al., 2020). To mimic the constructivist teaching strategies commonly used in F2F classes, students unmuted themselves while asking or responding to questions, or making comments via chat (Njoki, 2020). Some students were more active on social media platforms, sharing their doubts and resources to prepare for exams (Chick et al., 2020). Some also proactively collaborated with classmates to debrief group projects through video communication tools (Kim, 2020). However, ERT increased difficulties for instructors to adopt more flexible pedagogy (Loepp, 2021). In a physical classroom, teachers can more easily read students' facial expressions and body language, recognize their mind wandering, and check for understanding, while ERT challenged teachers to provide prompt feedback and make adjustments accordingly, as they were unable to properly gauge how students were progressing in virtual classrooms. Additionally, regarding the delivery mode, in a survey study with 184 students in public health, 69.9% indicated a preference for the asynchronous mode, owing to factors like not having to deal with technical issues and flexibility in class schedules (Armstrong-Mensah et al., 2020).

Assessments

The evaluation of academic performance constituted one of the biggest concerns of the students at the beginning of the crisis (Loepp, 2021). Students expressed the greatest anxiety about being accused of cheating on exams, followed by the potential of their classmates cheating (Patterson et al., 2021). Fair and objective evaluation of learning in online environments was a big challenge (Hallal et al., 2020). Techniques such as question and answer randomization and the usage of question pools were found ineffective (Kolack et al., 2020), since easy access to the internet could jeopardize the reliability of the evaluation (Oliveira et al., 2021).

Some instructors accommodated the ERT environment by adjusting assessment strategies. For instance, students received more flexible deadlines and more frequent but smaller assessments (e.g., quizzes and discussion posts), which helped mitigate the uncertainties that students may encounter during the pandemic, while also ensuring that students could keep up with the pace of the curriculum and gain new knowledge (Zuckerman et al., 2021). Yet most students reported experiencing an increase in their academic load as these new forms of assignments were added to the adjusted syllabi (Armstrong-Mensah et al., 2020). In addition, some professors were more lenient with grading and adopted a Pass/Fail grading system instead of the traditional letter grades (Calhoun et al., 2020). Besides, students generally viewed group projects and research laboratory exercises as the most challenging forms of assessments, while short essay responses and reflection papers did not require much effort (Blankstein et al., 2020).

Interactions with Instructors and Peers

Interactions and communications with instructors and peers play a significant role in promoting students' motivation and academic development. However, ERT hindered learners from staying connected to professors, impairing teachers' capacity to scaffold learners' knowledge construction, which may contribute to learners' low investment and poor performance (Katz et al., 2021). As one student recalled, "I am learning by myself, which has major limitations" (Patterson et al., 2021, p. 1327). It's unsurprising that students put a high value on teacher-student connections. They expected professors to be accessible, responsive, and communicative, to provide transparent information, guidelines, and expectations, to keep the LMS organized, and to be flexible and caring (Loepp, 2021). In a study of business school students, participants expressed their willingness to pay higher tuition for a similar level of engagement as before (Krishnamurthy, 2020). Results also revealed that more professors displayed greater flexibility and availability in terms of responding to students' inquiries, delivering oral and electronic feedback, maintaining e-office hours, and scheduling appointments for questions and discussions (Kim, 2020; Matters et al., 2021).

ERT also severely limited student-student interactions (Blankstein et al., 2020), depriving students of opportunities to share, negotiate, and engage in F2F activities and weakening their sense of belonging (Matters et al., 2021). When asked about the most

influential factors associated with a pleasant online learning experience, a group of political science students stated that “it was the person—not the material or the technology—that made the course successful” (Loepp, 2021, p. 169). Students reported that the presence of instructors, staff, and peers in ERT elevated their confidence in times of crisis (Matters et al., 2021).

Motivation and Engagement

Researchers revealed that student motivation and engagement tended to decrease after the sudden transition to ERT (Aguilera-Hermida, 2020). Students, disproportionately those from the lower end of the socioeconomic spectrum, did not feel comfortable participating in live activities and failed to show up regularly in virtual classrooms (Sequeira & Dacey, 2020). Some students found it difficult to fully engage during quarantine due to a lack of sufficient study space and constant distractions (Qadir, 2020). Students who were afraid of speaking up, either due to their shyness or concerns over English language skills, were more inclined to participate via the chat feature (Kolack et al., 2020). Additionally, a study seeking to understand why some students did not turn on their cameras during synchronous class meetings uncovered that concerns over personal appearances, physical locations, and weak internet connections were the major contributors, all of which put vulnerable student populations at greater risk of losing interactivity and engagement (Castelli & Sarvary, 2021).

Technology Use and Digital Skills

Educational technology frequently applied to ERT included: online educational platforms (Canva, Blackboard, Moodle); video communication tools (Zoom, Teams, Google Meet, Google Handout); team communication tools (Slack, Discord); social media (Twitter, Facebook); asynchronous videos (assigned or recorded by instructors); and synchronous class sessions (live). Below, we report findings regarding student experiences with ICTs, mainly associated with digital access, usability and reliability of technological tools, and digital skills.

Regarding accessibility, ERT did not affect everyone in the same way. Students who had depended on school-provided wireless networks and devices before the pandemic suddenly lost access to these supports, thus experiencing difficulties in attending online sessions, completing assignments on time, and properly managing their learning (Matters et al., 2021; Njoki, 2020). Although few students reported having difficulty accessing a computer, research indicated that white students had an easier time accessing it than their peers from any other racial or ethnic groups (Blankstein et al., 2020). Additionally, in a study on students’ experience and acceptance of ERT, it was found that accessibility was affected not only by the availability of the internet or digital devices but also by the number of people sharing a single residence (Aguilera-Hermida, 2020). When students moved back home to live with their parents and siblings, the slower internet connections caused by multiple users resulted in a less satisfying learning experience (Aguilera-Hermida, 2020).

Students' digital skills for learning in the ERT mode were related to their prior exposure to OL. Patterson et al. (2021) conducted research among first-year medical school students and revealed that students' past experiences with OL differed significantly. 34% had never taken an online course, whereas 11% had completed five or more. Additionally, only a small portion of students had prior experience with multimedia assignments, collaborative online projects, or synchronous class sessions. Therefore, students' comfort levels with these activities varied during ERT (Patterson et al., 2021). The study also discovered a correlation between students' digital skills and their confidence in achieving success in OL environments. It also demonstrated that introducing online communication tools and allowing students to practice could help alleviate their anxieties and frustrations associated with ERT (Kim, 2020).

Student Health and Wellbeing

In this part, we synthesize results on students' non-curricular experiences related to the closure of campuses and the shift to ERT concerning student mental and physical health, finances, and student support.

Physical and Mental Health

The results showed that a great majority of students expressed less concern about getting the virus themselves than the health of their family members and friends (Armstrong-Mensah et al., 2020). In addition, students' mental health status deteriorated during the pandemic (Lederer et al., 2021). Major stressors that contributed to their increased mental health problems were: (a) health concerns for themselves and others; (b) difficulty in concentrating; (c) disrupted sleep; (d) feelings of isolation; (e) decreased social interactions; (f) anxiety; (g) concerns over academics and increased workload; (h) financial stress, and (i) suicidal ideation (Son et al., 2020). Students expressed substantially more concern about their mental rather than physical health (Blankstein et al., 2020), and the pandemic made access to mental health care difficult (Martinez & Nguyen, 2020). Although students across different racial and ethnic groups shared similar levels of concern about their mental health, white students were less likely to display intense anxiety over their physical health (Blankstein et al., 2020). Additionally, for students engaging in a hybrid model of learning, the reduced operation of public transportation made their daily commute stressful (Day et al., 2021). Furthermore, it was noted that the aggravated racial and national discrimination during the pandemic exacerbated the emotional strain of minority students. Instances of race-based discrimination in both virtual and in-person settings were documented in multiple studies (Day et al., 2021; Martinez & Nguyen, 2020).

Financial Hardship

Financial problems were frequently identified as a prominent source of overwhelming stress for college students after the pandemic outbreak due to job loss, being furloughed, or the slow pace of business they previously worked at (Armstrong-Mensah et al., 2020). Hence, they required more financial assistance in this difficult time (Martinez &

Nguyen, 2020). Moreover, studies revealed that students' economic circumstances took a huge toll on their academic performance (Katz et al., 2021) and mental health (Blankstein et al., 2020). Students of color faced more financial difficulties, struggling with basic needs like housing, food, and paying utility bills (Martinez & Nguyen, 2020). This problem is particularly pronounced among students from the lower end of the socioeconomic spectrum, in part because they often lack reliable access to the internet.

Student Support

Campus closures meant support services transitioned to a remote delivery mode. However, there was a dearth of supportive resources provided for students, particularly regarding financial aid, academic advising, access to student development centers, and mental health care (Day et al., 2021). Students lamented that they were "on their own" to develop good learning habits, identify a career path, and master professional skills (Matters et al., 2021). The absence of shared social and cultural capital exacerbated the difficulties of marginalized and underprivileged students in navigating through all the complexities in their daily lives (Matters et al., 2021).

Discussion

ERT implemented in response to the need for social distancing during the COVID-19 crisis, helped maintain the continuity of education in the wake of the pandemic. It had a great impact on students' educational experiences and brought both opportunities and challenges.

Benefits and Opportunities

First and foremost, the sudden, large-scale digitization of higher education in response to the pandemic, though not well-planned, did ensure instructional continuity for students (Krishnamurthy, 2020). While there was no substitute for hands-on experience, various approaches to mitigate the loss were developed and implemented creatively. In addition, ERT transcended time and geographical limitations (Kim, 2020), enabling students to access recorded online lectures and shared resources remotely (Kolack et al., 2020) and manage their learning through flexible scheduling (Aguilera-Hermida, 2020).

Besides, students benefited from the significant efforts of instructors and TAs in developing coherent online curricula, experimenting with pedagogical innovation, and inventing novel ways of content delivery. Though some instructors might be underprepared with the technical knowledge and instructional design skills of OL, many reflected on previous teaching practices, meanwhile exploited easily available online resources and strived to provide students with a better learning experience (Martinez & Nguyen, 2020). In addition, the newly devised and applied learning modules, assessment tools, and blended learning might also positively supplement future education (Calhoun et al., 2020). The digital transformation likewise created a valuable learning experience for students to learn new tools and applications, improve digital skills, and grow more self-motivated and self-reliant (Aguilera-Hermida, 2020). Other

positive outcomes included more time for assignments and being with family (Armstrong-Mensah et al., 2020). Studying at home also helped some students save commuting time and lower living expenses (Patterson et al., 2021).

Obstacles and Challenges

Generally, college students perceived their campus to be supportive and reported a high level of understanding (Martinez & Nguyen, 2020). However, many preferred F2F instruction and expressed unfavorable feelings about their COVID-19 related experiences, such as social distancing and school closure (Aguilera-Hermida, 2020; Duong et al., 2020). Challenges in time management and striking a work-school-life balance still existed as before the pandemic (Martinez & Nguyen, 2020). In terms of academic learning, the adaptation was not as easy as it seemed. Limited connections with instructors and peers dampened students' motivation, confidence, and sense of community. The loss of nonverbal communication impeded information exchange (Njoki, 2020). Additionally, a heavy cognitive load was required in ERT for learners to engage in meaning-making across multiple modalities (e.g., PowerPoint slides and audio/video communication). Also, students were easily distracted due to factors like convenient access to the internet, unfavorable home environment, stress, burnout during the lockdown, and non-interactive lectures (Aguilera-Hermida, 2020). Besides, instructors' inadequate knowledge and skills in technical and pedagogical aspects of ERT affected the quality of OL (Kim, 2020). Further, the ERT mode made it extremely hard for students to participate in experiential learning, and academic dishonesty would negatively impact students' development (Kolack et al., 2020). For students enrolled in a hybrid learning model, reduced public transit service made their daily commute more burdensome (Day et al., 2021).

On the other hand, the shift to ERT posed a threat to students' health and wellbeing. Negative feelings like loneliness, anxiety, stress, and frustration were fairly prevalent among college students (Son et al., 2020), and the absence of traditional classroom socialization led to reduced interactions with peers and professors, resulting in feelings of isolation (Blankstein et al., 2020). These findings support the claim that the "increase in the time spent at the computer and the lack of personal communication affect not only the mental but also the physical health of students" (Zamaraeva & Nikolashina, 2020). Moreover, a lack of support for students' mental health in times of crisis would severely damage their wellbeing.

Equity and Inclusion

ERT intensified the challenges of equity, especially digital equity, in education. As Katz et al. (2021) noted, "while all students faced the challenges associated with adapting to novel conditions in the middle of a semester, they did not begin that hasty transition on equal ground" (p. 10). Their readiness for ERT differed according to the availability of resources and support systems (Patterson et al., 2021). Cultural and linguistic differences, ethnicity, financial disadvantage, unfamiliarity with educational systems, low social economic status, and dependency on technology during ERT further

(re)widened the gaps (Qadir, 2020). Additionally, students' prior OL experience was also a contributing factor, with those having prior OL experiences reporting higher remote learning proficiency (Katz et al., 2021) and a more positive learning experience (Patterson et al., 2021). On the other hand, although digital equipment and internet access did not constitute a sizable barrier for US college students, its reliability and stability nevertheless hampered a part of the population (Katz et al., 2021). Additionally, underprivileged and vulnerable students lost motivation due to technological constraints, a lack of supporting facilities, and poor digital skills (Sequeira & Dacey, 2020). These findings underscore the existing disparities in access to support and opportunities during ERT and the importance of implementing more caring pedagogical approaches to learn about and empower learners (Sequeira & Dacey, 2020).

Besides, several researchers (Zuckerman et al., 2021) examined the relationship between ERT and equity gaps in course grades among subsets of student populations and concluded that the current assessment tool did not showcase the negative impact of ERT on minority students, possibly due to the changed grading policies and the ceiling effect (Zuckerman et al., 2021). Therefore, what was more critical for educators was appropriately interpreting these grades, properly measuring students' cognitive gains and identifying constraints, and providing additional support for disadvantaged groups (Zuckerman et al., 2021).

In addition, it was revealed that there was a significant gap in student support services provided for students enrolled in on-campus programs and those in online programs before the pandemic (Bouchev et al., 2021). Ensuring students in the ERT mode could access equal support and service remained a challenge (Bouchev et al., 2021).

Furthermore, campus closure and ERT made the daily lives of students of color even harder. They were more likely to experience difficulties meeting basic needs such as food, rent, paying utility bills, and maintaining health (Martinez & Nguyen, 2020). This partly explained the reason for the regained popularity of the phrase, "Maslow before Bloom," since the onset of the pandemic, which can be understood as prioritizing basic human needs (e.g., safety, physical, emotional, and mental well-being) before focusing on academic knowledge and skill development (Berger, 2020).

We use a professor's observation to conclude this discussion on the equity issues, "They call education the great equalizer... I am not so sure. Education can become an amazing equalizer only if individual equity is considered" (Sequeira & Dacey, 2020, p. 6).

Recommendations

Accumulating evidence suggests that universities are at different levels of preparedness for ERT. To make ERT more effective and to inform future OL educational practices, below we synthesize the recommendations and strategies put forward in the articles

reviewed. To begin, education practitioners must recognize that the purpose of ERT is not to adhere to stringent academic standards and check off all learning tasks, but to provide temporary yet reliable and flexible access to education (Hodges et al., 2020). However, developing preparation strategies for unexpected events (e.g., natural disasters, civil wars, and disease outbreaks) should be a top priority for institutions (Bao, 2020). Given the massive impact the pandemic had on every individual, curriculum completion should not be the sole goal of education (Cahyadi et al., 2021). The social and affective dimensions of ERT need to be emphasized (Chick et al., 2020), and a high degree of adaptability and flexibility from all parties involved in education should be encouraged (Zuckerman et al., 2021).

Instructors should be equipped with essential technical and pedagogical competencies to manage OL effectively (Aguilera-Hermida, 2020). The following practices and strategies are suggested: increasing interactions among instructors and students, affording spaces for constructive and collaborative learning (Zuckerman et al., 2021), maintaining a clean and organized LMS (Loepp, 2021), communicating goals, expectations, and directions explicitly (Sequeira & Dacey, 2020), establishing social norms (Castelli & Sarvary, 2021), breaking up complex concepts and delivering them in digestible units (Matters et al., 2021), developing student-centered discussion and incorporating interactive activities such as pair-and-share (Matters et al., 2021), designing project-based learning and assessment, and providing timely and constructive feedback (Tamm, 2020).

To empower students in stressful learning conditions, “incorporating self-care and caring pedagogical practices” (Sequeira & Dacey, 2020) was recommended, which could be instrumental in maintaining students’ motivation and commitment (Cahyadi et al., 2021) and increasing their interest, confidence, engagement, sense of belonging, and willingness to take on more complex tasks (Sequeira & Dacey, 2020). Further, as the power dynamics between instructors and learners persist in virtual classrooms, practices related to teaching with care and empathy were recommended, such as initiating an introductory activity to get to know students and for them to get to know each other (Matters et al., 2021). Other practices like starting each session with brief personal updates, channeling course content and discussion to the current pandemic and students’ lives (Sequeira & Dacey, 2020), scheduling regular check-ins with students, and sending a weekly Google Form to stay up to date with their psychological and academic statuses (Matters et al., 2021) were also suggested, which would help build meaningful relationships.

Regarding equity and inclusion, while digital access may be less of a concern in the US compared to many other countries, not all students had access to optimal remote learning circumstances, and COVID-19 exacerbated the existing digital inequalities (Beaunoyer et al., 2020). Therefore, providing technical support to those who need it was crucial in developing their communication and digital skills, closing confidence gaps, and fostering their participation in the virtual environment (Patterson et al., 2021). Besides, in planning and developing online curricula, adopting universal design for learning (UDL), increasing digital accessibility, and considering the

affordability of various learning modalities (e.g., offering multiple modes of communication, allowing students to participate and learn in multiple ways, and using multimedia) could help promote access (Ableser & Moore, 2018). Further, considering learners' unique life experiences, needs, interests, and capacity in instructional design could also contribute to constructing an inclusive learning environment (Matters et al., 2021).

Implications

This article synthesized research on students' experiences with ERT in the context of US higher institutions during the COVID-19 pandemic. The results indicated that ERT ensured the continuity of learning, transcended time and geographical boundaries, and afforded students' flexibility and convenience to schedule their learning. Students considered ERT less fun and engaging because of technological constraints, limited social connections, a lack of support services, and marginalized identities in virtual space. Instructors' insufficient knowledge and skills in online instruction made ERT less productive. The sudden switch to ERT also impaired students' health and wellbeing and worsened equity issues among them. Although ERT could not compensate for the practical experience and pleasure of interacting, it was beneficial as a supplementary tool and could be a potential choice in the future for continuing education (Hallal et al., 2020). Given that the pandemic has had a profound impact on university education worldwide, the review can help educational institutions in and outside the US better understand the practices of ERT. While the findings should not be interpreted as exhaustive, as a starting point, they do provide valuable implications for education practitioners, policymakers, and researchers worldwide.

This review study has implications for the current and future implementation of ERT, as many students worldwide will continue to learn remotely until the pandemic recedes (Katz et al., 2021) and new emergencies stemming from uncertainties will inevitably occur, posing new challenges for the higher education sector (Loepp, 2021). Providers of ERT and those responsible for strategic planning for ERT can benefit from our review regarding the barriers to ERT as well as the opportunities it brings. The insights offered by the review may aid in developing contingency plans, facilitating informed decision-making and institutional resilience. For example, the knowledge gained on the immediate impacts of the pandemic on students' mental health and financial stress can help university personnel better understand students' uneasy feelings and desperate needs outside of classrooms, and be sufficiently prepared to increase relevant resources and services allocation. Additionally, the notable disparity highlighted in the access to technology, the Internet, and learning opportunities among learners from diverse backgrounds reminds educational institutions of the urgency of the equity issue, and their duty to work out possible solutions to the problem. Moreover, the findings of the review help instructors be cognizant of the circumstances students face in pressing situations, build rapport with students, and better understand their needs, meanwhile, urge instructors to reconsider their pedagogical practices, and implement inclusive instructional practices.

The review also has implications for improving the quality of online education. The instructional best practices recognized through ERT can be broadly applicable to OL, and the goal of providing an inclusive and engaging experience for learners should also be the guiding principles for online education. The new insights this review generated regarding students' adaptation to online education could be valuable for the planning, design, and delivery of online instruction, the development of long-term OL strategies (Johnson et al., 2020), and the construction of an OL ecosystem (Aguilera-Hermida, 2020). The suggestions that learners put forward, such as facilitating connectedness with faculty and peers, prioritizing the distribution of support services, increasing technology access, and providing career-related information, are all appropriate and constructive. In fact, they are also helpful strategies that educators could leverage to better address learners' needs, and deliver sustainable and high-quality OL. In addition, this review highlighted that to capitalize on the huge opportunities remote instruction brings about, instructors should equip themselves with tools and resources, and incorporate them into their pedagogical practices, and to make online education more accessible and engaging, instructional designers and technology support teams also play a critical role.

This review is mainly limited in that it is confined to the context of higher education institutions in the US. To fully capture the learning experiences of university students worldwide and advance the dialogue about how to best serve them during ERT, review studies that are situated under different contexts need to be conducted. Additionally, more specific ERT-related issues and the circumstances students face, such as how to promote online engagement, how attitudes, motivation, emotions, and beliefs in ERT impact cognitive development, how inequalities impact learning opportunities and outcomes, particularly with the vulnerable student body, are worth exploring. Studies tracking the short and long-term effects of the pandemic on learners are needed. Further, how instructors cope with ERT, their needs and concerns require further examination.

To conclude, it is encouraging that, despite obstacles and challenges, the continuity of education has been accomplished through ERT in many parts of the world. Along with it is the rapid growth of online education. The experience shows us that although "unexpected events and circumstances often bring frustration", identifying the gap and adopting a problem-solving mindset is what ultimately leads us to a new chapter in life (Kim, 2020, p. 153).

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ABD'deki Yüksek Öğretim Kurumlarındaki Olağanüstü Durumlarda Uzaktan Eğitim Dönemindeki Öğrenci Deneyimleri ve Fırsat Eşitliği

Öz

COVID-19 salgınının yayılmasına karşılık olarak dünyanın dört bir yanındaki eğitim kurumları eğitimin devam edebilmesi adına çevrimiçi eğitim öğretim araçlarının kullanımını genişletti. Bu makale, öğrencilerin ABD'deki yüksek eğitim kurumları bağlamında olağanüstü durumlarda uzaktan eğitim deneyimlerini inceleyen, öğrencilerin olağanüstü durumdaki uzaktan eğitime bakış açılarına, uzaktan eğitimin getirdiği zorluklara ve eğitimde fırsat eşitliğine ışık tutan bir araştırmanın özeti niteliğindedir. Bu makale ayrıca eğitim kurumlarının karşılaştıkları zorluklarla mücadele etmek için alabilecekleri önlemler konusunda bir görüş sunmaktadır. Edinilen bulgulara göre Olağanüstü Durumlarda Uzaktan Eğitim zaman faktörünün, coğrafi kısıtlamaların ötesine geçmiş ve öğrencilerin esnekliklerine ve öğrenme süreçlerini planlama elverişliliği açısından yeterli olmuştur. Genel olarak öğrenciler üniversiteleri ve özellikle de üniversitelerdeki öğretim görevlilerini kendileri için destekleyici figürler olarak görmüşlerdir. Ancak, üniversite kaynaklarına kısıtlı bir erişimle çevrimiçi olarak çalışma zorunluluğu (örn. finansal yardım, akademik danışmanlık ve mental sağlık), öğretim görevlileri ve akranlarıyla iletişim kısıtlılığı ve artan ruhsal yükler öğrenme tecrübelerini çok büyük oranda olumsuz etkilemiştir. Eğitimin hızlı bir şekilde dijitalleştirme çabası öğrenme konusunda zorluk çeken öğrenci nüfusunu daha da dezavantajlı bir konuma getirmiştir. Bu noktada teknolojik altyapıya önem verme, öğretim elemanlarını çevrimiçi eğitim için hazırlama, eğitime dahil bir pedagoji oluşturma, sosyal etkileşimleri teşvik etme, konuları ilgi ve şefkatle empati kurarak öğretme gibi öneriler makale içeriğinde özetlenmektedir.

Anahtar Kelimeler: olağanüstü durumlarda uzaktan eğitim, COVID-19, eşitlik, çevrimiçi öğrenme, yüksek öğretim