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Editorial: Digital learning innovations in education in response to the COVID-19 pandemic

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Editorial on the Research Topic

Digital learning innovations in education in response to the COVID-19 pandemic

Since the emergence of COVID-19 in 2020, education institutions worldwide have moved their teaching and learning programmes online and used synchronous online conferencing systems (e.g., Zoom, Microsoft Teams, Google Meet). This sudden shift in learning mode required teachers to update their pedagogical beliefs and attitudes toward technology (Gao and Cui, 2022), overcome contextual challenges (Jelińska and Paradowski, 2021) and leverage digital innovations to maximize student success (Kohnke, 2022a,b). Teachers initially found themselves unprepared and ill-equipped to cope with the daunting transition to online, blended and HyFlex learning (Moorhouse and Kohnke, 2021a,b). They had to venture outside their comfort zones and explore alternative ways to educate their students (Adedoyin and Soykan, 2020; Kohnke and Jarvis, 2021).

In our call for papers for this special issue on Digital Learning Innovations in Education in Response to the COVID-19 Pandemic, we set out to explore “innovations that have been made, challenges that have been conquered and practices that are worth keeping as educators move from emergency to sustainability.” Our call was answered by authors whose articles add to the burgeoning literature on digital education in the wake of the pandemic. Notably, this special issue sheds light on how educators from various fields (e.g., English, medicine, physical education) served students when face-to-face teaching and learning were impossible.

Ulla and Perales discuss how hybrid teaching methodology differs from blended, online and remote teaching by analyzing the practices of teachers from Thailand. They argue that hybrid education is here to stay; during the transition to post-COVID-19 teaching and learning, we should implement the best practices learnt during the pandemic. This could include, for example, using augmented reality (AR) to supplement face-to-face learning. Batool found that the use of an AR applications increased students' confidence and improved their attitudes toward learning. Similarly, Nguyễn et al. investigated the use of new technologies such as virtual reality (VR) and 3D technology in fully online and blended courses in the context of professional sports training. They found that most sports trainers in Vietnam had rarely taught online before the pandemic. Therefore, many of them experienced burnout, exhaustion and low professional efficacy when forced to do so. Generally, the

transition to online learning has increased the innovative teaching practices in various fields of education, as illustrated by [Deng et al.](#)

When implementing technology, it is vital to consider the Technology Acceptance Model (see [Davis, 1989](#)) and examine usefulness, ease of use and intentions, as in a study performed by [Tukiran et al.](#) at an Indonesian university. In addition, we should explore the skills that are best suited to online and face-to-face learning, respectively. [Elalouf et al.](#) found that online and face-to-face learners in Israel were equally satisfied with their lecturers' performance. However, online learners performed better on written examinations and face-to-face learners performed better on oral examinations. It is also important to consider teachers' readiness for online teaching, as discussed by [Antwi-Boampong](#), who tested and validated a faculty blended learning adoption model.

[Poungjinda and Pathak](#) researched law students at a local Thai university. They found that the availability of online resources, fast bandwidth and laptops had a significant impact on student academic success. This raises essential questions about equity in online learning as not all students have access to high-speed internet, laptops and a quiet space to study. In their study on medical schools in Indonesia, [Turana et al.](#) discussed the forced transition to online learning and the mental challenges it presented for students with inadequate access to the internet and laptops. Similarly, [Bui et al.](#) examined physical and psychological academic burnout at a Vietnamese university, finding that privacy concerns, prolonged online learning and a lack of community support contributed significantly to academic burnout among learners. The results of these studies imply that we should consider how to develop students' emotional intelligence (EI) and thus support their learning. [Carthy et al.](#) examined the efficacy and impact of a 5-week online EI coaching programme for Irish university students. The findings suggested that the participants' EI increased, enabling them to manage stress more effectively and increasing their academic success.

Engaging and motivating students are also essential elements of effective online teaching. [Har](#) used the game-based student-response system BadaBoom! to help students at a Hong Kong university to overcome their writing difficulties while participating in online learning and increase their engagement with the course content. Another way to engage students is to change the course delivery format. In a history education course, [Petousi et al.](#) promoted historical empathy through collaborative, interactive storytelling set in the ancient Athenian agora and using decision/branching for dialogues.

But when we incorporate digital technology in teaching, we must analyse the data to understand how students use it and

what can be improved. [Jones](#), in a UK-based study, examined the relationship between undergraduate student performance, engagement and attendance in Canvas (a learning management system). He warns that it is too simplistic to use page clicks, views and video duration to determine students' performance in an online learning environment. However, in a "big data" study involving 4,500 students at a Hong Kong university, [Foung and Chen](#), found that analytics can provide insight into course design, language use and skills in need of improvement. [Guskaroska et al.](#) proposed a way to design student-friendly online learning environments based on their study of a composition course in the United States. Incorporating optional synchronous video sessions, multiplying communication channels and reducing unnecessary tasks increased schedule flexibility, improved time-management skills and made course delivery more efficient.

Pandemics come and go. The insights gained in this special issue will help educators respond promptly should another pandemic befall us and use digital technology to provide students with the best possible educational experience. We will be able to move forward with greater certainty about how we can maximize digital learning opportunities even if we cannot engage in face-to-face teaching and learning.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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