Guest editorial: Digital education and online learning to achieve inclusivity and instructional equity (Part B)

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This special edition has been published at a time when the Fourth Industrial Revolution (4IR) and the outbreak of the COVID-19 pandemic have added to the fast-tracking of education and research (Alnagrat et al., 2022), and when higher education institutions (HEIs) are faced with the demands to transform into technological hubs and be 4IR savvy (Telukdarie & Munsamy, 2019). In response to strict COVID-19 regulations, universities cancelled all face-to-face classes and transitioned to digital education and online learning or emergency remote teaching (ERT) (Hodges et al., 2020). Bagarukayo and Kalema (2015) reported that HEIs and schools have adopted technology solutions to support their daily operations, not only in teaching and learning but also in support services.

Moreover, the need to enhance teaching and learning efficiency has led to the emergence and adoption of different technological innovations. Central to the transition were digital learning platforms known as learning management systems (LMS) to enable online teaching and learning. Linder et al. (2017, p. 27) define LMS as "a software system that offers an organisational structure for a range of course tools to be used by both groups and individuals online". These digital platforms enable online delivery of lectures and study materials (Adikwu et al., 2017) and facilitate communication between teachers and students (Naik et al., 2020). A study conducted by Makumane (2021) revealed that students viewed LMSs as promoting professional identity (performance curriculum) as they get easy access to content uploaded by lecturers. In this regard, technology's interactive and dynamic offerings have changed the face of teaching and learning (Faloye et al., 2020).

Papers in this special issue herald the positive side of the digitisation of student learning. The primary function of technology integration in education institutions is its capacity for interactive learning through discussion, sharing and delivery of module materials, communication and multimedia. With so much exposure to the technology, teachers hardly have

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a choice other than to embrace the new technology and facilitate interactive teaching and learning to students. The use of digital technologies not only influences teachers' pedagogical approaches, but also has a positive impact on the achievement of learning outcomes (Chandra & Mills, 2014).

This special edition aims to set an agenda for research, the operationalisation of digital education and the positioning of digital technologies to create inclusive learning environments. The White Paper on e-Education (Department of Education, 2004) states that ICT offers greater opportunities to access learning, redress inequalities and improve the quality of teaching and learning. In this regard, the digital transformation of education involves a shift from traditional pedagogy to more learner-centred, technology-driven learning with enhanced teaching and learning experiences (Ankiewicz, 2021; Osmundsen et al., 2018). observed that technology enables teachers to cater to students' diverse needs. If learners receive quality education, they reduce inequalities and achieve gender quality to create an inclusive society.

However, there is a legitimate concern about the isolating nature of digital education and online learning. While the transition to digital education and online learning has been lauded as efficient, flexible and encouraging higher engagement with course material, the biggest challenge is the absence of research informing the transition and instructional design principles informing the design and development of the online courses. Dlamini (2018) argued that any reactive and simplistic approach concerning the implementation of digital education, online learning and digital learning platforms as well as technologies in universities has the potential to promote ideals of classism. In fact, there is lack of empirical work to ground the discourse, especially in resource constrained contexts. Thus, unequal access to digital resources has aggravated digital inequalities and inequity. Mhlongo and Dlamini (2022, p. 1) asserted that "approaching digital technologies from a utility perspective places these tools at crossroads with broader social and contextual issues". Unequal access to digital resources and competencies has the potential to widen the access gap to education. In our experience, it has become clear that the discourse on 'Digital Education & Online Learning to Achieve Inclusivity and Instructional Equity' has not been adequately debated and researched scientifically in the South African context.

As such, there has been a great need for high-quality papers that reflect various perspectives on 'Digital Education & Online Learning' especially with accelerated transition towards digital education and online learning in the education sector. The papers in this special issue explore the interplay between digital affordances and cognitive dimensions as well as the theoretical and epistemological literature on adopting and appropriating technology in education. Further, this issue provided an opportunity for researchers to share best practices, contribute contextual knowledge, bring about diverse perspectives on how the interplay between technology and education is perceived and how changing discourses impacts teaching and learning practices. The papers in this special issue discuss and provide critical reflection on various digital technologies and their impact on pedagogical practices and also how they act as catalysts for change in the education sector. It brings together distributed research to inform teaching and learning using various technological innovations and digital pedagogies.

In this special issue, Chomunorwa, Mashonganyika, and Marevesa explored "*Digital transformation and post-Covid-19 education in South Africa: a review of literature*." A systematic literature review was used as the methodology for this study that included keywords such as digital divide, education, digital transformation, inclusive education, and post-Covid-19 education. The study highlighted the challenges to address past inequalities, including lack of resources, language barriers, technological shortcomings and skills and knowledge shortage. Chomunorwa, Mashonganyika, and Marevesa recommend the development of student basic practical skills to enhance lifelong learning, satisfaction, happiness, well-being, opportunity and contribution to humanity. It is imperative that the curriculum focuses on teaching students' creativity, entrepreneurial thinking and competency to succeed in the age of smart machines and globalisation.

Faloye and Faniran reported on "*Integrating technology in teaching and learning practices: Students' competencies*." The study investigated student competency levels based on factors such as their prior exposure to computers and the availability of facilitating conditions such as human or technical support. According to Faloye and Faniran students who had access to a computer prior to entering university are likely to be more competent in their usage than those who had access after joining the university. The findings showed that the provisioning of facilitating conditions in a technology-integrated academic environment positively influences student competency in the use of technology.

Ngqulu and Nomnga in the article entitled, "*Covid-19 pandemic: A necessary catalyst for e-learning adoption and application*" assess the state of e-learning before and after the first six weeks of lockdown regulations in two higher education institutions (HEIs), using a theoretical framework of e-learning system readiness assessment and a participatory research approach. The findings reveal a state of under-preparedness by HEIs to operate under the lockdown regulations, due to the adopted blended learning policy implementation gap. However, the study concludes with an argument that the Covid-19 pandemic presented a great opportunity for HEIs not only to adopt e-learning at the policy level but also to adapt to the new e-learning methods and practices and thus prepare universities for times of uncertainty.

Molotsi, Moodley and van Wyk explored the "*Grade 9 teachers' experience of digital technologies in the classroom*." The study was framed by the Technological Pedagogical and Content Knowledge (TPACK) framework. The findings revealed limited integration of digital technologies in delivering lessons making technological lnowledge (TK) non-existent. This is a result of not having the technology available, lack of support, and of not having the knowledge or "know how" to integrate digital technologies. In their study the value of supportive school leadership and the need for continuous professional development opportunities is evident. The study recommends that more research is conducted regarding the lack of pedagogical knowledge and strategies planned to provide training opportunities for teachers on the integration of both technology and pedagogy knowledge to deliver their lessons.

Gumbo reported on "*Digitisation of higher education and research: Raising inclusivity and equity issues for indigenous students*". The conceptual study critiques digitisation of higher education and research as it relates to inclusivity and equity for indigenous students. The article

contributes insights into the vulnerability of indigenous students and argues that institutions for higher learning are uncritical of the digitisation of their learning, knowledge and research. Gumbo's conceptual paper conscientises higher institutions of learning to digitise learning and research from a transformational perspective.

Zuma and Mthembu, in their article "*Exploring ideological-ware as a resource in the use of Moodle in higher education - analysing Covid-19 publications*" reported on the use of digital technology such as Moodle in higher education institutions that demonstrate shared-, self- and specialised-experiences. They emphasised the essence of ideological-ware in blended learning. Thus, lecturers need to have teaching strategies and creative ways when using hard-ware and soft-ware for teaching, and to consider students when thinking about ideas and teaching theories that will fit for each topic and the resources available.

Shandu-Omukunyi investigates the learning and teaching of English First Additional Language (EFAL) using digital resources, through the work entitled "*English First Additional Language learning and teaching with digital resources*". The aim was to understand whether the pedagogical digital literacy practices and the use of digital resources enhance the learning of EFAL. Through the lens of Computer Assisted Language Learning (CALL) theory and Technological Pedagogical Content Knowledge (TPACK), the study argues that the integration of technology helps teachers to deliver the EFAL content in a flexible and enhanced way. The amalgamation of an e-education policy with the Language in Education Policy (LiEP) and the Curriculum Assessment Policy Statement (CAPS) for the implementation of language digital teaching practices in basic and higher education should be explored. Further, the findings reveal that teachers require being equipped with digital literacy skills to effectively teach the languages.

This special edition focuses on research that helps us to understand how digital education and online learning widen access to education. We are of the view that digital tools open up exciting and innovative instructional avenues that may be used to overcome student passiveness, time and enhance inclusive pedagogies. We therefore invited the submission of papers for this special issue to gather a collection of high-quality papers that reflected various perspectives on digitalisation and online learning.

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