

# Editorial

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2023 is a year in which the devastating effects of climate change (such as the wildfires in the Mediterranean, Freddy, the longest-lasting cyclone in the Global South, and the severe weather events and flooding in the US) have been at the forefront of the news. Countries' commitments to goals made in the Paris Agreement 2018 and the UN Framework Convention on Climate Change, and the subsequent COP (Conference of the Parties) conferences are under stress. The war in Ukraine has resulted in many countries turning to coal-fired plants in the short term for energy security. Nevertheless, most societies are seeking ways to lower the impact of carbon fossils and to employ clean energy. International organisations continue to stress the need for governments to engage all stakeholders on policies and actions relating to climate change.

The importance of meeting UNESCO's Education for Sustainable Development (ESD) 2030 goals cannot be underestimated. 'ESD gives learners of all ages the knowledge, skills, values, and agency to address interconnected global challenges including climate change, loss of biodiversity, unsustainable use of resources, and inequality' (UNESCO Report 2023)

The outpouring of research on the abrupt move to online learning necessitated by the Covid-19 pandemic, with the concomitant analysis of what works and what does not, presents an opportunity to use the lessons learned when incorporating ESD into learning frameworks. Online learning in higher education is here to stay with many programmes being offered entirely in this mode and even more in a blended learning approach. The advantages for students are many; for example, it enables 'anywhere anytime' learning access. The use of mobile technology in learning has the potential to democratise higher education. Of course, many severe challenges remain particularly in sub-Saharan Africa such as the digital divide, poorly prepared students due to dysfunctional school systems and rampant poverty. All of these have been well addressed in previous editions of the IJTL.

The Interdisciplinary Collaborative Online Learning Framework Education (ICOLE) of 2020 serves as a useful starting point in the quest for ensuring sustainable development is part and parcel of education programmes. The integration of ESD into ICOLE is pursued in the first article of this edition. Using literature review as well as student reflections, the authors seek ways in which ESD can be practically implemented in interdisciplinary collaborative projects. They propose a new learning framework - the Sustainable-Smart Transdisciplinary Learning Framework - which includes a fifth learning design principle and a fourth structuring element. This is an important contribution.

In the following four articles, the use and implementation of online learning is explored. Given the rapid switch to online learning due to the pandemic, it unsurprisingly emerges that institutions were largely

unprepared for this mode of learning as a principal learning tool. Nevertheless, as the articles show, there were successes as well as challenges.

In the first of these, the author investigates the impact of the shift to online teaching during COVID-19 on lecturers' attitudes and practices. To address the continuing challenges, the authors suggest an institutional training process so that lecturers develop the skills and cultural capital for effective online teaching. The findings are similar to that of the next article in which the author conducted a study on the challenges educators faced during the pandemic. Recommendations are provided to improve the effectiveness of online teaching practices. The following article may provide a way forward to have successful online teaching programmes. The authors explore the perceptions of academics in a university of technology on continuous professional development on the creation and teaching of online modules. Two factors were found critical to success; (i) the module structure provided by the instructional designer, and (ii) the support provided by the university's eChampions. The last article on online teaching investigates the widespread use of mobile technologies and their integration into education. The study expands on current knowledge as well as providing suggestions for practitioners in HEIs.

Online assessment is the topic of the following two articles. In the first of these, the authors use collaborative autoethnography to explore ways in which online proctoring tools can contribute toward ensuring valid and reliable summative assessments. While opportunities are found, the use of proctoring tools to ensure ethical behaviour of students is not established. The authors make recommendations in this regard. Following on from this, is an investigation into students' perceptions of Computerised Adaptive Testing (CAT) in higher education. The authors in this quantitative study found that most students are positive about using CAT. The findings are useful for institutions which are looking to implement CAT.

The last two articles are concerned with mathematics and success. The authors in the first study investigate the impact of socio-economic status on learners' self-concept in relation to mathematics in rural and urban schools in a district in South Africa. The study found that a parent's poor socio-economic status negatively affects a learner/student's self-concept in relation to mathematics. Recommendations are made to improve this. In Practitioners' Corner, the authors investigate the high dropout and failure rates in a Linear Algebra module at an Open Distance eLearning institution. Using script analysis, it was found that declarative and procedural knowledge was lacking, and that deep learning is not taking place. These are needed for academic success.