

## **Editorial: Reflections on Student Satisfaction and the Readiness of Educators for Technology Integration in Teaching and Learning post COVID-19**

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This is the second of the three Issues of our journal for 2023, and it seems like only yesterday that we were ushering in 2023! ! In most of our countries the COVID-19 restrictions have been lifted and for many of us in higher education, the start of the new academic year will see our students back in face to face classrooms. We salute those institutions that have and will maintain an online presence after careful review of the mode of delivery of instruction implemented in early 2020 and the lessons learned.

In this Issue we present articles from or about South Africa, Nigeria, Tanzania, Ghana, Uganda, Namibia, India, Hong Kong and Jamaica. In Volume 19 Issue 1, we featured articles that commenced our reflections on the teaching and learning strategies that were implemented during the COVID-19 pandemic and the impact on student outcomes. In this Issue we present a core of articles that reflect on student satisfaction and the readiness of educators – in service and preservice teachers, and lecturers in higher education – for the sustainable future of teaching and learning.

### **Refereed Articles**

The articles in this section are drawn from the geographic locations of Hong Kong, Ghana, Nigeria, Uganda, Tanzania, Namibia and South Africa. The focus is on online student satisfaction, engagement, learning performance, and the challenges confronting them, the digital competences of teachers, their readiness to adopt technology enhanced pedagogy and usability of the technology tools. We also examine the role of reflective practice for effective student learning, and we review the design of online conferences for best practices post the COVID-19 pandemic.

#### *Enjoyment of Study, Engagement, Learning Performance, and Informal Learning*

In our first Refereed Article **Simon C.H. Chan** discusses the relationships between student enjoyment of study, study engagement, learning performance, and informal learning. Study engagement was used as a mediator between enjoyment of study, learning performance, and informal learning. Data were collected from undergraduate students who participated in online learning for an academic semester at a Hong Kong university. The results indicated that enjoyment of study and study engagement were *positively* related to learning performance and informal learning. Study engagement *partially* and *fully* mediated the relationships of enjoyment of study with learning performance and informal learning, respectively. Theoretical and practical implications for enjoyment of study in online learning are discussed in this article.

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<sup>1</sup> The University of the West Indies Open Campus has been rebranded and with effect from August 1, 2023 is now known as The University of the West Indies Global Campus.

*Challenges and mediating effects for integration of technology*

Continuing the theme of reflecting on student performance, in this article we present a systematic review of the challenges confronting online students, including the lack of network and connectivity, lack of Internet bandwidth and data bundles, inadequate training, inadequate technical support, and lack of hardware and software. These challenges are presented as key barriers to integration of technology into academic programmes in public universities in Ghana. Using the Constructivist and Positivist paradigms, **Gyau, Semarco & Gyan** report findings that the challenges of students, directly and indirectly, impact the integration of technology, mediated by acceptance, interactivity and LMS usage. The study identified acceptance and adjustment to adopt technology and the use of the LMS, as key predictors of the integration of technology into academic programmes in public universities in Ghana.

*Digital Competences of Secondary School Science Teachers*

Shifting the focus to teachers, this article by **Ayodele A. Ogegbo** discusses the findings of an investigation among a sample of Nigerian science teachers on perceptions of their level of digital competency using the Digital Competence of Educators Framework. The findings indicate that the majority of teachers in the sample demonstrated an integrator–B1 level of digital proficiency and need to improve their knowledge of which tools are most effective in which circumstances, and their ability to integrate digital technologies into their pedagogical strategies and methods. The sample of teachers also demonstrated low proficiency levels on the sub-dimension of digital content creation, providing feedback, planning, and analysing evidence of students' problems, and organizational communication. The author recommends ongoing professional development that focuses more on real-classroom examples of how science teachers can use technology to meet the various needs of students, thereby fostering improvements in their level of digital proficiency. The author notes that the findings may be useful for higher education institutions when re-evaluating their teacher preparation programs, to ensure that incoming teachers are better prepared to use digital technologies in their classrooms.

*Readiness to adopt technology-enhanced pedagogy*

In this article by **Buluma, Walimbwa, Mbulankende & Nabiryo**, the authors explored the technological competencies of in-service teachers to use technology-enhanced pedagogy in the implementation of secondary school curricula in Uganda prior to the COVID-19 lockdown in 2020. Their findings revealed that 40.4% of participants had limited access to digital learning resources, 48.1% lacked the confidence to use digital pedagogies, 83.7% needed intensive professional development in the use of digital pedagogies and 59.7% had barely used technology-enhanced pedagogy. The authors concluded that most of the in-service teachers were less skilled in the use of technology-enhanced pedagogies, and they recommend professional development opportunities for in-service teachers in online facilitation.

*Usability Testing of a Mobile-based Learning Management System*

Moving from the theme of teacher readiness to adopt technology, the authors of this article note the growing adoption of mobile technology to enhance the quality of teachers' continuous professional development (TCPD) in low-income countries. **Kondoro, Maro, Mtebe, Haßler & Proctor** evaluated the usability of a TCPD-focused Learning Management System (LMS) accessed via a mobile web browser and mobile app. A hybrid think-aloud method was used for the evaluation among a sample of teachers from 12 schools in Tanzania. Half of the schools were evaluated using a concurrent think-aloud method, and the other half using a retrospective think-aloud method. The study findings indicate many mobile app usability problems, usability flaws in

the registration and login process, poor language translation, technical errors, and issues with quiz questions. The authors note the importance of user testing, even for a well-developed LMS, such as Moodle. The article provides useful guidance for those who want to implement mobile learning via an LMS in low-income countries.

#### *The role of reflection in teaching practice- experiences during emergency remote teaching*

In this article **Mufeti** uses an interpretive lens to present experiences with online teaching and learning in a Data Structures and Algorithms course at the University of Namibia (UNAM). The author kept a reflective practice journal, required her students to engage in reflective practice throughout the semester, and engaged and discussed her experiences with colleague lecturers. The article provides a perspective in narrative form of reflections on the meaning of teaching and learning as adapted to emergency online teaching during the COVID-19 pandemic. The author advocates for the approach to using reflective practice as an opportunity for educators to experiment with new delivery approaches, as well as to monitor how their interventions can impact the achievement of learning outcomes.

#### *Are conferences changing? Creative and flexible online designs*

In our final article in this section, **Tony Carr** revisits conference participation and presentations and discusses the online interactions necessitated by the COVID-19 pandemic. He notes that from 2020 many online conferences were unable to make creative and effective use of readily available technologies to support the full range of formal and informal interactions needed to facilitate participant and community level learning experiences during the conference. This article discusses this phenomenon and describes a range of more creative and flexible online conference designs from the pandemic period that look well beyond the emergency remote conference.

### **From the Field**

The articles in this section focus on issues affecting teaching and learning in India, Tanzania, Ghana, and Jamaica. Authors explore student perception of online learning during the COVID-19 pandemic, student use of mobile phones as a supporting tool for learning challenges and the barriers to the use of technology by teachers. The section closes with a study that can serve as a use case for accessing and analysing student log data in the LMS for monitoring learning progress.

#### *Students' perception toward online teaching and learning*

In the first article in this section **Chauhan** and **Thakur** reflect on the perception and satisfaction of university students in rural India toward online teaching and learning and any changes in their psychological behaviour as well as their perception of exams and self-study during the COVID-19 pandemic. The authors report that students found the online teaching and learning environment to be as effective and interesting as the face to face classroom learning experience, however among the challenges noted by the students were disturbances in the home environment and lack of space for online teaching and learning activities. The authors observed that competency with the online learning system is an area of concern for attention by stakeholders.

#### *Student use of mobile phones as a supporting tool for learning*

In this article **Nicholaus Mwalukasa** discusses the findings of an investigation into the use of mobile phones as a learning tool among a sample of postgraduate students in Tanzania. The author notes that most of the students used mobile phones for sharing and reading lecture notes, as well as for downloading academic materials. Further, the factors influencing their use of the mobile

phone as a learning tool were perceived usefulness, perceived ease of use, and attitude. The study concludes that use of mobile phones as a learning tool is high among the students, but findings suggest the need for seminars that educate students on the effective utilization of their mobile phones for academic purposes to enhance learning.

#### *Multi-stakeholder perspectives of technology integration barriers*

In this article **Emmanuel A. Abedi and Francis R. Ackah-Jnr** discuss the factors that stymie teachers' technology integration practices for transforming pedagogy and promoting student learning in Ghana. Using a barrier to change theoretical lens and soliciting the views of multi-stakeholders in education, their findings revealed six contextual factors impacting effective technology integration, namely, *first-order barriers* - technological resource availability; leadership support; teacher professional development, and *second-order barriers* - teacher technological know-how; pedagogical beliefs and interest in technology use; and students' familiarity with technology. Contrary to the view in the literature that the impact of first-order barriers is diminishing, the authors report findings that indicate the first-order barriers were perceived to have a more significant impact than the second-order barriers. The study findings offer implications for research, policy, and practice on barriers to effective technology integration in teaching and learning in developing countries.

#### *Modeling Technology enhanced Instruction to pre-service teachers*

In the final article in this section, the authors **Lisa Facey-Shaw and Granville Pitter** use the experience of a first-year university pre-service teachers course taught in Jamaica during the pandemic, as a reflection point for a review of lessons learned about technology integration. Several pedagogical strategies underpinned by the constructivist approach and supported by the Science Technology Mathematics & Engineering (STEM) methodology were incorporated into the course for the effective integration of ICT in the teaching and learning process. The article emphasizes the need for effective modeling of technology use by teacher educators to provide expert illustration/demonstration to pre-service teachers for future classroom practice. Recommendations and the implications for practice and research post-pandemic are provided for consideration by teacher educators.

### **Research in Progress**

#### *Monitoring of leaning recession using LMS log data*

In this article **Khamisi Kalegele** discusses the pragmatic use of machine learning techniques to improve the capacity of educators to monitor the learning progress of their students in developing countries like Tanzania. The author advocates for the use of system log data, available in the electronic learning management systems, and proposes several indicators of recession, and how they can be combined to ease monitoring and visualization and thus allow educators to intervene proactively, where necessary.

### **Notes from the Field**

#### *Strengthening Extension and Advisory Services Delivery*

In the final article in this Issue, we focus on a practical case for rural contexts and the delivery of Extension and Advisory Services (EASs) in the agricultural sector in Tanzania. The authors, **Athman Ahmad, Camilius Sanga, Kenneth Mapunda, Dismas Mwaseba and Ruth Haug** discuss conventional approaches which have been deemed inadequate in meeting the priority

needs of their clientele, and the potential for Information and Communication Technologies (ICTs) to overcome many of the challenges associated with the conventional provision of EASs. The study draws on the work of the ICT-based Village Knowledge Centre (VKC) and the authors explore the experiences of various stakeholders in using the VKC in the delivery of extension services.

**Continued best wishes from the Editorial Team!**

We thank all our authors for the lived experience of continuing patience and understanding of our review and acceptance processes. 2023 continues to be challenging and we appreciate the support and the enduring desire to serve, demonstrated by our peer review panels. Thank you everyone!

We are working toward the publication of a Special Issue on AI and hope to share with you in the coming months, prior to the publication of Volume 19, Issue 3 in December. We thank our Guest Editor and look forward to the publication on this topic.

A further reminder to new and continuing authors of our journal guidelines that should be observed when submitting articles for publication. Your attention to the author guidelines at: <http://ijedict.dec.uwi.edu/submissions.php#guidelines> will enhance our review process and improve the time to completion by our review panels.

To all our authors and readers, stay safe and continue to be well.

Denise Gaspard-Richards  
Chief Editor, IJEDICT

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