

Editorial

Reimagining educational practices through technology: Advancing innovation, inclusion, and pedagogical transformation

With the rapid advancements in the integration of technology into educational systems, the need to promote innovative practices in teaching and learning is becoming increasingly significant, which is the primary aim of the Journal of Innovative Practices in Education (JIPE). Within this evolving context, educational technology serves not merely as a set of tools to support teaching and learning but more as a catalyst for innovative practice across diverse learning environments. The thoughtful integration of technology is essential for enabling inclusive, equitable, and transformative learning environments. Educators, researchers, and policymakers, constantly grapple with numerous challenges and opportunities of the digital age, while deliberating how to leverage the potential of educational technology to ensure equity, inclusivity, and meaningful learning for all. From virtual classrooms and AI-powered learning platforms to accessible multimodal resources and personalized instruction, modern technology has great potential to reimagine and change educational practices. Nevertheless, the effectiveness of such efforts will depend on their purposeful alignment with evidence-based transformative practices. This Issue of JIPE brings together a diverse collection of articles that exemplify the transformative promises of educational technology intersecting with innovative thinking and practices of educators. We are happy to share with you six articles comprising four research articles, a review article, and research communication, that explore various perspectives and practices related to the dynamic interplay between educational technology and pedagogical innovation while highlighting the challenges and opportunities in these transformative progressions.

Fostering technological and pedagogical transformation in educational processes essentially requires close collaboration among practitioners. Communities of Practice (CoPs), characterized by groups of people with a shared domain of interest who engage in ongoing interaction to learn from each other and improve their practice (Wenger, 1998), are powerful structures that support educational change through professional collaboration. In their article *“E-learning Community of Practice and Pedagogy in a Resource Constrained University”*, Walimbwa, Buluma, Mbulankende, and Olivier presents an educational design research study that examined the creation, function, and sustainability of an e-learning CoP in a resource-limited educational setting. As the findings highlight, an effective e-learning CoP undoubtedly requires clear planning, appropriate digital platforms, collaborative discussions, and ongoing professional development activities to promote knowledge sharing, skill enhancement, community building, and mutual support among practitioners. This study demonstrates how educators can be empowered with innovative technological and pedagogical practices through sustained professional development via designing and implementing effective e-learning CoPs at practitioner level.

Innovative practices in education essentially entail responsiveness to learner diversity. The deployment of assistive technologies, ranging from speech-generating devices to AI-driven social robots, demonstrates how innovative technology integration can bridge the gaps in access to education for learners with special educational needs by supporting them with differentiated instruction. The article, *“Using Assistive Technology to Support Children with Autism Spectrum Disorder in the Colombo District, Sri Lanka”*, by Athauda explores this vital aspect. The findings of the study revealed that even though a diverse range of assistive technologies (AT) are being used

by schoolteachers to support learners with Autism Spectrum Disorder (ASD), many of them lacked familiarity and confidence in employing AT effectively. Challenges such as inadequate training and institutional support, limited resources, and resistance from school authorities and parents impede actualizing the potential benefits of AT, which emphasize the need for collaboration among all stakeholders to promote human-centred innovative practices in inclusive education with technology integration.

Thoughtful integration of digital tools drives pedagogical transformation not only by making education more inclusive, but also by creating engaging and inspiring learning environments for students. Use of virtual laboratories (VL) is an innovative practice that facilitates the teaching-learning process in practical laboratory-based subjects, as examined in the article by Vijayatheepan titled *“Exploring the Perspectives and Challenges Faced by Sri Lankan School Teachers in Integrating Virtual Laboratories into Science Teaching”*. Since VLs can effectively complement physical laboratory activities and enable students to practice inquiry-based skills via 3D interactive and immersive simulations, teachers can re-imagine how Science can be taught more creatively. However, the findings of this study reveal disparities in the perceptions and engagement of teachers in the implementation of VLs based on the school types and their location, due to inequalities in infrastructure, facilities, and teacher training, suggesting the need for targeted interventions to support effective VL integration across schools in different contexts.

Assessment, an integral component of any teaching-learning process, should move beyond just measuring learning to promote student learning by adopting innovative practices. In contrast to

Assessment of Learning (AoL), which measures summative outcomes, Assessment for Learning (AfL) methods used as formative assessment, offer continuous feedback for students to improve their learning, via innovative assessment strategies. In their article *“Assessment for Learning to Enhance Economics Students’ Academic Performance in Gombe State Secondary Schools in Nigeria”*, Bappah and Dalhatu describe a quasi-experimental study that examined the impact of AfL methods on the academic performance of students as opposed to traditional assessment methods. As results reveal, the adoption of portfolios and rubrics as assessment methods for AfL has significantly impacted on improving student achievement, implying the positive effect of these innovative assessment strategies, and emphasizing the need to promote such practices among educators.

Fostering technological and pedagogical growth among educators entails technology-mediated continuing professional development (CPD) initiatives. Nevertheless, it is imperative that designing of such CPD programmes have appropriate theoretical grounding and be supported by established frameworks and models. For instance, the TPACK (Technological Pedagogical and Content Knowledge) framework (Koehler & Mishra, 2009) provides direction for educators on the interactions of content, pedagogy, and technology to design technology-integrated learning experiences. The article titled *“Technology Integration Models and Instructional Design Frameworks to Facilitate the Development of Teacher Training Programmes”* by Yumna presents a systematic review of three Technology Integration Models: 5WH1, TPACK, and WSTP and two Instructional Design Frameworks: ADDIE and 4C-ID to explore their relevance in developing effective teacher training programmes. The findings emphasize the need for an integrated

approach of models and frameworks to better equip educators with the necessary competencies for meaningful integration of technology in education.

Empowering educators to experiment, adapt, and adopt innovative technological and pedagogical practices will eventually contribute to educational transformation. In this context, Universal Design for Learning (UDL) principles which emphasize incorporating multiple pathways for learning (CAST, 2018) offer valuable guidance for inclusive curriculum design. The short research communication titled *"Applying Universal Design for Learning Principles for the Teaching-Learning Process in the Inclusive Classroom"* (written in Sinhala) by Tharangika describes a phenomenological research study on the implementation of UDL principles to teaching Mathematics in an inclusive classroom in Sri Lanka. The study reveals that the participant teacher attempted to represent the three core principles of UDL: providing multiple means of representation; providing multiple means of action and expression; and providing multiple means of engagement via adopting various strategies in her lesson planning. It highlights the need to address various challenges faced by teachers in adopting UDL practices including resource constraints, lack of awareness, and limited professional development opportunities and calls for action to promote integration of UDL principles into mainstream education.

As technology continues to change the world around us, pedagogical practices must also evolve. As reflected by the articles presented in this edition of *JIPE*, by harnessing the potential of educational technology in thoughtful and creative ways, educators can foster innovation, promote inclusion, and transform pedagogical approaches to better serve diverse learners. This

transformation is not just about new technological tools, but about reimagining new pedagogical practices. Moving forward, research must continue to explore the complex interplay between technology and pedagogy, to ensure that educational innovation remains equitable, effective, and responsive to the needs of all learners. We hope that you will enjoy reading the articles published in this issue and invite you to publish your innovative research findings in our upcoming issues!

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