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EDITORIAL

Pedagogy-Driven, Technology-Enabled Curriculum Innovation for Transforming Teaching, Learning, and Assessment

In an era of rapid technological advancement and evolving learner needs, educational innovation demands more than simply introducing digital tools into classrooms. It requires a fundamental rethinking of how curriculum, pedagogy, and technology interact to transform teaching, learning, and assessment. When technology is purposefully integrated with pedagogy and aligned with curriculum objectives, it can enhance student engagement, personalize learning pathways, and strengthen assessment practices (UNESCO, 2023). Thoughtfully designed technology-enabled curricula also support differentiated instruction, foster collaborative learning, and promote equitable access—particularly when embedded within professional teaching practice rather than treated as a supplementary tool (OECD, 2023).

However, technology alone does not drive meaningful educational transformation. The effectiveness of digital tools is largely determined by teachers' pedagogical expertise, their capacity to design purposeful learning experiences, and the alignment of innovations with broader curriculum goals. Frameworks such as the Technological Pedagogical Content Knowledge (TPACK) model highlight the critical interplay between technological, pedagogical, content, and contextual knowledge, emphasizing that sustainable innovation emerges from the integration of all these domains within specific situational, institutional, and cultural contexts (Mishra, 2019). Accordingly, pedagogy-driven, technology-enabled curriculum innovation is key to equitable, effective, and meaningful learning in contemporary education systems.

This issue of the *Journal of Innovative Practices in Education* (*JIPE*) brings together a diverse collection of articles that illustrate the transformative potential of educational technology when combined with innovative pedagogical thinking and practice. We are pleased to present six contributions—three research articles, two review articles, and one conceptual article, that examine a range of perspectives and practices at the intersection of curriculum, pedagogy, and technology. Collectively, these articles highlight both the opportunities and the challenges inherent in advancing teaching, learning, and assessment through thoughtful, technology-enabled pedagogical innovation.

The first article, *Curriculum innovation: The complexities of implementing General Information Technology (GIT) at school level* by Lindakumbura and Wijeratne, reports a study on the implementation of GIT in Sri Lanka's General Certificate of Education (G.C.E.) Advanced Level curriculum. Using a qualitative multiple-case study design, the research explored teacher and student experiences, as well as factors influencing the implementation. Findings indicate that limited awareness of objectives, inadequate infrastructure, insufficient teacher professional development, and weak systemic support hindered effective adoption, leading to reduced engagement with the GIT curriculum among both teachers and students. The study suggests targeted measures, including improving physical resources, revising curriculum alignment with national vocational frameworks, and strengthening monitoring systems, to enhance the impact of GIT as a curriculum innovation.

Technology-enabled innovations such as mobile learning (m-learning) demonstrate that enhancing teaching and learning requires attention to both tools and context. In her article *Mobile learning in school education*, Francke reports a study on m-learning among Advanced Level students in Sri Lanka's Eastern Province illustrating the interplay of technology, learners, and context in influencing innovative practices. Using the UTAUT framework, the study found that performance expectancy, effort expectancy, and social influence positively affected students' intention to adopt m-learning, whereas perceived usefulness and playfulness were less influential. These findings emphasize that, even when digital tools are available, successful adoption depends on aligning innovations with learners' perceptions, expectations, and social environments, reinforcing the delicate balance between opportunities and challenges in technology-enabled learning.

The article by Weerasinghe reporting a case study titled *Use of SMART Boards in the teaching-learning process in junior secondary classrooms* (in Sinhala language) highlights how technological tools can enhance classroom teaching-learning process when integrated thoughtfully. The study found that both teachers and students responded positively to smart boards, which facilitated interactive, visually enriched lessons and greater student engagement. At the same time, challenges such as limited infrastructure, technical issues, a shortage of trained teachers, and underutilization of digital resources were evident. It demonstrates that technology-enabled learning succeeds only when systemic support, teacher competence, and purposeful tool integration work together to enhance student learning.

Extending the focus from classroom-level technological innovations, another dimension of curriculum reform in Sri Lanka addresses broader structural and career-oriented challenges in education is the focus of the article authored by Kumari, titled *Evolution of Career-oriented education and the implementation status of the Thirteen-Year Guaranteed Education Programme (13YGEP): A critical review.* This narrative review synthesized the historical evolution of career-oriented curriculum reforms in Sri Lanka and critically examined the implementation of 13YGEP. While revealing the programme's potential to enhance employability and diversify professional opportunities, it highlights the need for broader subject streams, effective implementation strategies, and further exploration of stakeholder perspectives.

Micro-Learning (ML), or 'bite-sized learning', is a promising approach that leverages technology to support innovative pedagogy and curriculum design, enhancing learner engagement and knowledge retention when integrated into broader instructional goals. The article, *A systematic review of reviews on Micro-Learning* presented by Liyanage, synthesizes evidence on the theoretical basis of Micro-Learning (ML), and its pedagogical effectiveness, through the conduct of an 'umbrella review' based on PRISMA guidelines. The review highlights that, while ML is recognized as an effective instructional approach across diverse contexts, research shows a notable lack of theoretical integration. These insights can guide educators and instructional designers in developing more intentional, evidence-based ML interventions.

The final article in this issue conceptualizes the use of digital portfolios in the era of generative artificial intelligence (GenAI), proposing the 4P framework—Purpose, Product, Process, and

People—to guide portfolio-based learning and assessment. The framework emphasizes reflective, digital, and critical skills development, offering opportunities for personalized, student-led, and collaborative learning. At the same time, challenges emerge around ethical use, equitable access, and meaningful integration into pedagogy. This conceptual piece reinforces a key insight across technology-enabled curriculum innovations: their transformative potential is realized only when innovative tools are thoughtfully designed, supported, and aligned with learning objectives, ensuring that opportunities are maximized while risks are managed.

The articles in this issue demonstrate that technology-enabled, pedagogically sound, and innovative curriculum approaches have the potential to transform teaching, learning, and assessment across diverse contexts—from technology-enhanced classroom practices and micro-learning to vocational programs and AI-enhanced portfolios. These studies highlight how such innovations can enhance student engagement, personalization, skill development, and reflective learning, showcasing the benefits of novel thinking in education.

At the same time, the effectiveness of these approaches is influenced by practical challenges, including infrastructure limitations, teacher preparedness, pedagogical design, equity, and systemic support. Achieving meaningful transformation therefore requires leveraging opportunities while strategically addressing these challenges, offering guidance for educators, curriculum designers, and policymakers seeking to foster sustainable improvements in teaching and learning.

We hope that the articles presented in this issue of *JIPE* inspire you with novel perspectives for future research. Enjoy reading, and we invite you to submit your innovative research findings for our upcoming issues!

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