THE TECH-ENHANCED PEARLS FRAMEWORK: TRANSFORMING ACCOUNTING EDUCATION THROUGH DIGITAL INTEGRATION

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ABSTRACT

The accounting profession is experiencing rapid digital transformation, yet accounting pedagogy often remains anchored in traditional methods. This gap leaves both graduates and educators underprepared for the demands of modern practice. The PEARLS framework offers a holistic, evidence-based approach to academic development. While effective in its original form, there is an opportunity to amplify its impact by embedding technology as a foundational enhancer for students and lecturers. This innovation positions technology specifically AI, analytics, simulations, and collaborative tools as a digital foundation beneath the PEARLS framework. Each dimension is intentionally enhanced for dual impact: Partnership is scaled through cross-institutional digital collaboration platforms connecting lecturers and students with industry; Engagement is deepened via real-time polling and gamified interactivity; Authenticity is strengthened through simulation of real-world accounting scenarios; Reflection is supported by e-portfolios and AI-facilitated prompts; Leadership is fostered through student-led digital projects and lecturer-led innovation communities; Sustainability is ensured by embedding continuing digital resources and peer-mentored professional development. The enhanced framework will be shared and implemented in teaching and learning the accounting program, with pre- and post-assessments measuring student outcomes and lecturer professional growth. Simple pilot data via 2-day program aligning with previous studies suggesting increased feedback, improved student confidence in applying concepts, and enhanced lecturer responsiveness to learning gaps. Participating lecturers reported renewed teaching ability and expanded digital competencies. The Tech-Enhanced PEARLS Framework offers a scalable, replicable model for modernizing accounting education. By grounding technology in a validated pedagogical structure, it simultaneously bridges the classroom-practice gap for students and advances the professionalism of accounting educators.

KEYWORDS: Accounting Education, PEARLS Framework, Professional Development, Technology Integration.

PROBLEM AND OBJECTIVE

The accounting profession is undergoing exceptional digital transformation, with artificial intelligence (AI), data analytics, and automation fundamentally reshaping professional practice (Kokina et al., 2025). Yet accounting pedagogy has struggled to keep pace with these changes. A significant and persistent gap exists between the competencies graduates possess and the digital fluency the profession demands (Sledgianowski et al., 2017). Recent research confirms digital transformation is critical within education ecosystem to meet the dynamic needs of the market as well as globalisation pressure. Despite the numerous innovation and efficiency opportunities, its pose significant challenges for the education actors – institutions, individuals and society (Argento et al., 2025) in terms of service delivery, engagement and readiness.

Contemporary challenges are multi-faceted. Studies reveal that while universities often cover business acumen, they lack sufficient emphasis on digital literacy, interpersonal skills, and effective decision-making in their curricula (Dangi et al., 2023). The PEARLS framework by (Eppich & Cheng, 2015) for healthcare education, offers a holistic approach to academic development. Its six interconnected dimensions provide a robust pedagogical foundation for professional education. Ever since, the PEARL model (*Practical, Entrepreneurial, Reflective Learning*) has become even more critical in a world where AI has changed the skills needed: practical learning builds adaptive competence; entrepreneurial learning fosters agency and innovation; reflective learning builds moral imagination and self-awareness (Dakshit et al., 2026).

This innovation presents a Tech-Enhanced PEARLS Framework that positions technology as a foundational layer across the six PEARLS dimensions. The framework aims to achieve dual impact: (1) enhancing student learning outcomes, engagement, and professional readiness through pedagogically grounded technology integration; and (2) advancing lecturer professionalism through expanded digital competencies, renewed teaching efficacy, and sustained communities of practice.

DESIGN DESCRIPTION AND VISUALS

The Tech-Enhanced PEARLS Framework (Figure 1) positions technology specifically AI, data analytics, simulation software, and collaborative digital tools as a foundational layer beneath the six PEARLS dimensions. The framework signifies the importance of technology that enables and strengthens every component of the pedagogical framework. Table 1 explain the impact of technology enhancement to both students and lecturers based on PEARLS dimension.

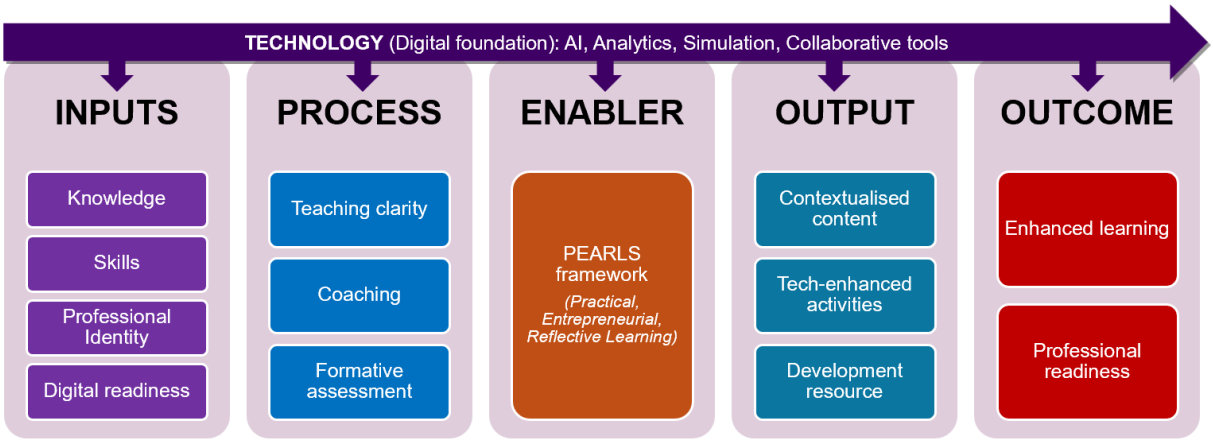


Figure 1. The Tech-Enhanced PEARLS Framework

Table 1. The dual impact of technology advancement based on PEARLS dimensions

PEARLS Dimension	Technology Enhancement	Impact	
		Student	Lecturer
Partnership	Cross-institutional digital collaboration platforms	Diverse perspectives	Peer learning networks
Engagement	Real-time polling, gamification, interactive dashboards	Sustained attention	Real-time insight into understanding
Authenticity	Simulation software, data analytics platforms, professional tools	Practice with real-world tools	Current and updated practice
Reflection	E-portfolios, AI-facilitated reflection prompts	Deeper self-analysis, reflection	Reflective teaching practice
Leadership	Student-led digital projects, lecturer innovation communities	Ambassador/agent	Scholarship of teaching and learning
Sustainability	Embedded digital resources, peer-mentored development	Lifelong learning habits	Endure communities of practice

NOVELTY AND UNIQUENESS

The Tech-Enhanced PEARLS Framework offers several distinctive contributions that set it apart from existing approaches which include:

- Pedagogically Grounded Technology Integration systematically maps technologies to each dimension of PEARLS, a validated pedagogical framework (Dakshit et al., 2026).
- Dual-Impact simultaneously transforms student learning and lecturer professionalism.
- Alignment with Professional Body Competency Frameworks: (e.g. AICPA (2019) and CPA Australia (2021) emphasise digital literacy, data analytics, and technological agility to ensure graduates are conceptually knowledgeable and practically fluent with professional tools (Dangi et al., 2023).
- Sustainability via Communities of Practice fosters lasting communities among lecturers offering critical supportive factors for sustainable ICT integration (Argento et al., 2025).

BENEFITS TO MANKIND

The Tech-Enhanced PEARLS Framework generates benefits that extend beyond individual classrooms to society. Incorporating technology in pedagogical structure will help in enhancing graduate employability and workforce readiness as accounting graduates are equipped with both technical knowledge and digital fluency. It enables scaling of high-quality accounting education beyond well-resourced institutions via online collaborative platforms, simulation software, and digital resources sharing expert-level learning experiences. The framework is expected to strengthen the accounting profession through Reflection and Leadership, support Lecturer Well-being and Career Longevity and contribute to Sustainable Development Goal 4 (Quality Education).

COMMERCIAL POTENTIAL

The Framework offers significant commercial potential across multiple markets including (1) local and international universities and colleges offering accounting degrees which require curriculum modernisation, (2) professional accounting bodies (e.g. ACCA, CIMA, CPA etc) seeking continuing professional development (CPD) offerings for its members, (3) global and regional firms needing trained graduates and ongoing staff development, (4) EdTech companies seeking pedagogically

grounded content and frameworks, and (5) Training departments requiring upskilling in finance digital tools and practices.

The revenue may come from franchise/licencing fee model, certification and training programs, consultation and implementation services, as well as content and resources platform for educators, institutions and professional bodies. The differentiator lies on the fact that technology is mapped to a validated PEARLS learning framework with dual-impact evidence instead of either students or educators. As such the framework is scalable across geographies, institutions contexts and resource levels, and flexibility in delivery modes.

CONCLUSION

The Tech-Enhanced PEARLS Framework represents a timely and necessary response to the digital transformation of the accounting profession. By positioning technology as a foundational layer beneath the six PEARLS dimensions (Partnership, Engagement, Authenticity, Reflection, Leadership, and Sustainability), this innovation offers a systematic, pedagogically grounded approach to modernising accounting education. The framework addresses three critical gaps identified in contemporary literature (1) the need for intentional technology integration within validated pedagogical structures; (2) the imperative to develop lecturer digital competency alongside student learning; and (3) the requirement for sustainable models that create enduring impact beyond isolated interventions. A pilot implementation of the framework demonstrates the dual impact; students emerge with stronger conceptual understanding, digital fluency, professional confidence, and reflective capacity while lecturers appear with renewed teaching efficacy, expanded digital competencies, and leadership identities extending beyond the classroom.

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