# Building bridges: What 40 years of educational technology research teaches us about the theory-practice gap

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In this editorial we mark AJET's 40th anniversary by reflecting on the persistent challenge of bridging theory and practice in educational technology research. Despite remarkable advancements – from microcomputers to generative artificial intelligence – recurring themes such as cost-effectiveness, educator readiness and meaningful integration of technology remain persistent concerns. We identify two core issues underpinning the theory-practice gap: siloed theoretical development disconnected from pragmatic realities and the overlooked contributions of third-space professionals, who navigate both domains but are often marginalised in institutional research agendas. The AJET team renews its commitment to fostering robust, reciprocal connections between researchers and practitioners. Initiatives including community-driven special issues, enhanced reviewer development programmes and professional learning resources are highlighted as forming a strategic agenda for building bridges to cross this divide. Looking ahead, we invite a sustained dialogue and collaboration to ensure educational technology research continues to inform practice in meaningful, transformative ways.

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## Introduction

In 2016, the American Educational Research Association turned 100. The theme for one of the panels that year was "A century of grading research". The session presented a clear, coherent look into how far educators have come in grading practices and the systematic ways they analyse and understand both practices and outcomes. The session ended on a contemplative note, carried forward into the subsequent panel publication – many issues identified a century ago remain persistent in research and practice, today (Brookhart et al., 2016).

Is the same true for technology in tertiary education? In writing the first editorial in AJET's 40th anniversary year, this question is very much on our minds. Looking back over the past 4 decades, we see rapid growth in educational technology development and research, which has had a large impact on the ways we teach, learn and assess. Yet, we also see evidence that several challenges that existed in 1985 persist, albeit in different forms. As we consider AJET's role in 40 years of educational technology research, we must explore this tension within the field, but also how we communicate about this field as researchers, practitioners and as a journal.

AJET's 40th anniversary and this editorial come at a time of seismic shifts in educational technology and tertiary education. We are also seeing increasing (re)consideration of the value of research (Thompson et al., 2022), peer review (Corrin, Lodge, & Thompson, 2023) and ways in which we communicate results (Lodge et al., 2024). The aim of this editorial is not to provide a conclusive account of the past nor to

forecast the future, but rather to identify key patterns and issues that call for our timely and sustained attention. In doing so, we pay special attention to two key themes.

The first is the recurrent challenges in linking theory and practice. Educational technology has long struggled with bridging theoretical ideals with practical realities. A substantial body of great research demonstrates the use of technologies in particular contexts or informs the development of innovative frameworks, but this is not always presented in ways that allow other educators to implement these innovations in their own practice. We explore how this gap persists and what it implies for AJET and the broader community.

The second is the seismic shifts in new technologies and scholarship practices. New generative technologies powered by artificial intelligence (AI) are creating many opportunities as well as challenges for the educational technology field. Similarly, the proliferation of journals, greater pressure to publish and the pushback against "free labour" in academic publishing and peer review systems carry major implications for how we conduct, disseminate and value educational research (Corrin, Thompson, & Lodge, 2023).

## Persistent issues and progress

Along the journey from microcomputers in campus labs to pocket-sized mobile devices equipped with AI tutors, educational technology has evolved in ways that may have astonished the authors of AJET's first published articles, back in the 1980s. Yet some of the dilemmas noted in those articles – questions of cost-effectiveness, educator readiness and alignment of technology with learning objectives – continue to surface today.

In early issues of AJET, authors debated how to integrate personal computing devices effectively with educational practice, weighing the cost-to-benefit ratio of interactive media and pointing out tensions between institutional priorities and teaching practice (Dunbar, 1985; McNamara, 1985). Fast-forward to the 2020s, and we see articles exploring how AI tools integrate with higher education assessment and learning outcome priorities (Weng et al., 2024) and ways we may ensure that open educational resources maintain rigorous standards (Stagg et al., 2023). These articles and editorials are, of course, not identical. In reading across the decades, we see fundamental shifts in the field. The more recent articles also demonstrate important methodological advances in our means of inquiry. At the same time, there are enduring concerns and tensions about how we foster effective uptake of technology and balance the costs and benefits, mapping broad institutional priorities versus the finer-grained needs of educators and students and whether we use technology for meaningful educational outcomes or employ technology for technology's sake.

## Theory and practice: Islands apart

> I was teaching an undergraduate pre-service teacher course at The University of Hong Kong. I had one student in particular that clearly wasn't happy. In addition to picking '1's for every item on the Likert scale, the student had written a single comment: 'Theory is rubbish!'

> It provoked an emotional response in me at the time, as negative outlier evaluations often do for untenured, assistant professors. The comment has stuck with me, however, because I think the student had a valid (if a bit salty) point – sometimes, the way we approach theory, especially with practitioners, is a bit rubbish. (A vignette by Chris Deneen)

The "theory–practice gap" is a significant, recognised dilemma in social science and specifically educational technology (Munshi & Deneen, 2018; Norman, 2010). Across the field of educational technology, copious theoretical models have been produced ranging from cognitive theories of multimedia learning to complex frameworks for learning analytics – yet these models sometimes seem abstract to the everyday realities faced by instructors in tertiary settings. The emergence of generative AI

has led to similar patterns, with a range of different models and frameworks emerging in the last couple of years, especially in relation to assessment (Bozkurt et al., 2024; Chan, 2024; Furze et al., 2024; Liu & Bates, 2025).

The theory-practice gap persists for all sorts of reasons. Two core reasons for this are especially relevant for our purposes here: siloed perspectives and isolation of researchers and practitioners.

With regards to siloed perspectives, we can identify a recurring pattern that those developing theory sometimes do so in relative isolation from the complexities of practice. At the same time, pragmatic solutions are quickly developed on the ground without benefiting from robust theoretical underpinnings. We see this manifested in published articles that advance theoretical frameworks, but attempts at or plans for validation are often absent. Conversely, we see attempts at and reporting of educational technology use without an understanding of what the attempt meant in a broader interpretive context. In both cases, it is difficult, if not impossible, to see how replication, scaling or transference may be achieved as either research or practice.

In terms of the isolation of researchers and practitioners, research agendas may be set by funding imperatives or academic curiosity, rather than being grounded in practical classroom needs. Conversely, practitioners may find themselves too overburdened by immediate teaching and administrative demands to explore newly published, theoretically dense articles. Equally important, many of the front line educational technology practitioners are third-space academics and professionals (McIntosh & Nutt, 2022; Simpson, 2025). These are often the most well-versed people in technology and higher education curriculum development. Yet, they are often the last people universities consider when allocating workload space for conducting research or concomitant funding, as many of them do not fall neatly into traditional (read: faculty-based) research structures.

Looking forward, this is a gap to be closed, but not one within the research. Rather it is a gap between the perception of third space professionals and the value of their work. Closing that gap should involve scaffolding their ability to work on educational technology-related scholarship of teaching and learning.

Theory divorced from authentic practice can indeed be rubbish. But equally, a-theoretical practice lacks a coherence framework that allows us to advance that practice and integrate it with larger curricular structures, and indeed make it transferable to other contexts and in this way enhance practice in the sector. Historically, this happened with areas such as learning analytics (LA). Initially, LA was an a-theoretically practice-driven exploratory field (Knight & Buckingham Shum, 2017). Over time and thanks to diligent empirical research and practical application, LA is now a field with robust, defensible connections between theory and practice (Axelsen et al., 2020; Khalil et al., 2022). So, bridges can be built between the islands of theory and practice, if we commit to performing, promoting and disseminating robust research as parts of the bridge-building.

Recent AJET editorials have called for us to do exactly that. Goodyear (2023) reminded us that academic research in educational technology is valuable only insofar as it illuminates how real learners interact with technology to construct knowledge. He also notes that "practical change is more likely to sustain itself when grounded in strong theoretical frameworks" (p. 5). This bridging is not simply about "making research accessible" or "testing a new tech tool" but building two-way channels so that both theory and practice evolve in tandem.

As an educational technology-focused journal, we have a responsibility to manage this and push towards closing this gap. So, this is not simply an admonition to our readers; it is rather a reflective note to ourselves.

## Bridging theory and practice: AJET's ongoing mission

A recurring metaphor in our 40th anniversary reflections is that of a "bridge". A sturdy bridge requires solid foundations on both sides. On the one side is theory, built through iterative, peer-reviewed research that refines the conceptual underpinnings of how people learn with and through technology. On the other side is practice, shaped by real learners, real classrooms and real constraints.

Bringing knowledge from the academy to the classroom is a good start, but we envision two-way traffic: educators identifying authentic problems that require theoretical input, researchers translating empirical findings into practical solutions, and both sides continuously sharing feedback.

As we look ahead, AJET will be renewing its commitment to this in a few important ways:

- **Community-driven special issues:** Our goal is to ensure that new special issues focus on emergent areas (e.g., generative AI or advanced analytics) in which practitioners can co-author articles with researchers, ensuring that relevant theoretical frameworks connect with real-world problems.
- **Reviewer development:** There is no peer review without reviewers. Ensuring reviewers can help to facilitate this theory to practice connection in their feedback requires professional development and continuing conversation about the state of the field. AJET is experimenting with new forms of building reviewer capability to engage with processes in ways that are productive, quality-focused and expedient. This involves running a series of workshops in 2025 in the Asia-Pacific region.
- **Professional learning resources:** Building on the success of workshops and online seminars, AJET will continue collaborating with ASCILITE to offer practical training in designing, evaluating, and implementing educational technology.

## Looking ahead

In this 40th-anniversary year, AJET will publish a series of editorials and invited commentaries designed to expand and deepen the conversation begun here. In our next three editorials, we will journey through the key contributions and themes from a historical perspective, profiling important topics and contributors within the broader educational technology landscape. Later in the year, we will look back with those who have played an important role in the development of the journal to explore how it has impacted the field over the past 40 years. As always, we will wrap up the year with our summary of the bibliometrics and impact of the journal for 2025, including a look at the works that have made, and continue to make, significant impact in the field. At the time of writing this editorial, we are on track to receive our highest number of submissions to the journal in AJET's 40-year history, which is a tribute to the status and quality of this publication and all the people who contribute to it.

Not every question can (or should) be answered in a single editorial. By opening the door to these discussions, we invite our readers – academics, administrators, instructional designers and developers – to continue the dialogue by submitting papers, engaging with special issues and forging cross-sector partnerships. The current climate, marked by rapid AI innovation and intensifying discussions about academic impact and labour, is an important moment for reflection and action.

Forty years ago, the launch of AJET represented an optimistic step towards formalising and disseminating research on educational technology in tertiary settings. Today, we stand at another historical juncture, looking back on significant shifts in hardware, software, theories of learning and policy frameworks – yet also hearing familiar echoes of unsolved problems. The conversation about bridging theory and practice has not ended; in fact, it has intensified, driven now by the complexities of AI, open-access debates and the globalisation of higher education.

Do the same problems remain? The technologies have certainly changed, but the fundamental tasks of how best to serve learners, how to create inclusive learning spaces and how to balance the interplay of robust theory and real-world practice remain as relevant today as they were in 1985. AJET's mission is more critical than ever: to function as both a knowledge source and a "bridge builder", connecting theoretical insights with pragmatic, impactful practice.

We welcome you – our contributors, reviewers, editorial team and readers – to join us in marking this milestone year. Through sustained dialogue, co-created research and a commitment to accessible, high-quality scholarship, we can shape the next 40 years in ways that advance theory and practice and the ways in which we as researchers and practitioners put the two together. The editorial team looks forward to working with you throughout this anniversary year to co-author the next chapters of educational technology research and practice.

## Author contributions

**Chris Deneen:** Conceptualisation, Investigation, Writing – original draft, Writing – review and editing; **Henk Huijser:** Writing – review and editing; **Linda Corrin:** Writing – reviewing and editing; **Feifei Han:** Writing – review and editing.

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