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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Rebalancing the algorithm: The educational technologist as an ecosystem custodian

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This paper is a conceptual position paper grounded in a decade of research into the values and beliefs of educational technologists (McNutt, 2019). It proposes that three interconnected concepts – Universal Design, ecosystem custodianship, and the poetic imagination offer a framework to inform and guide conversations and discussions on rebalancing the algorithm in the field of educational technology. The profession is standing at a crossroads as algorithmic systems are marginalising human judgement. There is an opportunity for educational technologists to assert their identity as ecosystem custodians – by cultivating environments where technological innovation, inclusive practice and human dignity remain in productive balance. The CONFRONT framework, originally presented at the EAN Conference (Craddock & McNutt, 2025) is anchored in eight poetic principles (Communicate, Opportunities, Nurture, Feel, Reduce, Ownership, Nudge, Trust), is proposed as a practical and philosophical architecture for that work. The paper's one central argument, to quote Seamus Heaney, "If you have the words there is always a chance that you will find the way," at its best, the algorithm should serve our poem, not the other way round.

Keywords: Universal Design, educational technology, AI in education, poetry, CONFRONT framework, inclusive design, conceptual

Introduction

> *A line will take us hours maybe; / Yet if it does not seem a moment's thought, / Our stitching and unstitching has been naught.*
> *— W.B. Yeats, Adam's Curse (1983)*

Educational technology has always been about more than technology. At its best, it is the work of designing the conditions in which people learn, participate and flourish. The tools have continually changed — from overhead projectors and virtual learning environments to learning analytics and generative artificial intelligence (AI) — but the central question has remained remarkably constant: what kind of educational ecosystem are we creating, and for whom?

AI has brought this question into sharper focus. Algorithms increasingly shape how learners encounter knowledge, how teachers design learning experiences, and how data and analytics shape education policies and priorities. While these technologies offer unprecedented opportunities for personalisation, creativity and efficiency, they also risk reinforcing historical assumptions about who learns, who belongs and whose ways of knowing are recognised. The challenge facing the field of educational technology is therefore not simply technological adoption but cultivating and curating cultural capital underpinned by personal values and beliefs.

This paper makes two contributions to the field. First, it proposes ecosystem custodianship as a conceptual reframing of the educational technologist's professional identity. Custodianship describes the professional responsibility to cultivate educational environments where technological innovation, human dignity and inclusive participation remain in productive balance. It is neither a rejection of AI nor a nostalgic return to pre-digital education. It commits, instead, to keeping technological progress accountable to educational purpose. Second, drawing on the principles of Universal Design, previous research into the professional identity of educational technologists (McNutt, 2019), and the field of digital humanities (Burdick et al., 2012) it introduces the CONFRONT framework presented not as a prescriptive change model but as a heuristic — a reflective

approach that helps educational technologists navigate the ethical and human dimensions of AI-enabled education.

This is a conceptual position paper which adopts a methodology that is interpretive and integrative. The CONFRONT framework was created by mapping the principles of Universal Design onto the practices of the ecosystem custodian and by identifying poetic texts that illuminate each principle. This paper suggests that poetry offers more than metaphor. It provides a language through which attentiveness, imagination, moral reflection and hope can be understood alongside technological innovation.

If you have the words, there's always a chance that you'll find the way
— "Stepping Stones": Interviews with Seamus Heaney by Denis O'Driscoll

Custodians of learning ecosystems

An ecosystem is not a machine. Machines are designed to optimise efficiency and predictability. Ecosystems, by contrast, thrive through diversity, interdependence, adaptation and resilience. They are sustained not through control but through relationships.

This distinction matters because educational technology has often borrowed its metaphors from engineering rather than ecology. Learning environments are described as systems to be optimised, learners become users to be supported, and success is measured through efficiency, scale and performance. Such perspectives have undoubtedly contributed to educational innovation, yet they risk overlooking qualities that resist optimisation — belonging, trust, creativity, dignity and care.

Universal Design offers an alternative philosophy (Mace, 1985). Rather than asking learners to adapt to educational systems, it asks educational systems to anticipate learner diversity from the outset (CAST, 2018). Educational ecosystems comprise learners, educators, technologies, institutional cultures and communities that continually influence one another. Their health depends on diversity and reciprocity, not uniformity (Craddock & McNutt, 2025). Educational technologists contribute to that health less through the tools they implement than through the conditions they cultivate for these relationships to flourish (Craddock et al., 2017). An ecosystem custodian is someone who applies Universal Design thinking not to a single product or platform but to the entire relational environment of learning i.e. the culture, the curriculum, the technology and the community.

Seamus Heaney's Digging (Heaney, 1998) provides an illuminating metaphor for this work. Each generation inherits different tools while remaining committed to the same essential labour. AI may fundamentally change the tools available to educators, but it does not alter the enduring responsibility to cultivate learning environments characterised by inclusion, participation and hope, echoing international efforts to embed Universal Design at institutional level (Bringolf, 2018). The tools change; the custodian's responsibility remains.

Universal Design does not lose its relevance in the age of AI — if anything, its principles matter more now than before. The emergence of intelligent technologies does not diminish the need for educational technologists who lead with their heart. It amplifies it.

The algorithm: AI and the risk of reductive design

I saw the danger, yet I walked along the enchanted way.
— Patrick Kavanagh, Temptation in Harvest (2004)

AI in education promises real things: personalised learning, adaptive assessment, less administrative drudgery. But systems trained on historical data tend to reproduce historical inequity, and a system that optimises for an "average" learner will, almost by definition, exclude everyone who departs from that average — different languages, different ways of knowing, different bodies and minds.

Burgstahler (2015) describes Universal Design as a process rather than a destination: a standing commitment to widen access, not a box to be ticked once. Applied to AI, that means ongoing evaluation, ongoing refinement, and accountability to users whose needs the system was not originally designed to meet. ASCILITE's 2026 sub-theme of "Rebalancing the Algorithm" calls for exactly this kind of work — bringing compassion, an ethics of care, and a plurality of knowledge systems into how our educational technology systems are designed.

Educational technologists are well placed to lead it. McNutt (2019) found them to be motivated, often quite deeply, by commitment to the learner; the harder task is turning that private conviction into something that shows up in the design decisions themselves.

The CONFRONT framework: Eight poetic principles

The CONFRONT framework sets out eight principles designed to inform and guide conversations, each paired with a voice from the Irish poetic tradition. It is not meant to be worked through as a checklist; it is closer to a disposition — a way of approaching the design of learning environments that keeps the human and the affective near the centre of the work, rather than at its margins.

The framework emerged through a process of conceptual synthesis — its eight principles derived by mapping the core commitments of Universal Design — anticipating diversity, reducing barriers, enabling participation and cultivating belonging onto the work of the ecosystem custodian. Designed to counterbalance a growing political discourse encouraging the abandonment and dismantling of diversity, equality and inclusion initiatives within our education sectors. Each principle names a disposition or action — a call to action to advance inclusive change in an AI-enabled educational environment. The alignment of poetry and the framework emerged after the fact — poetry has been my constant companion for many years and in many ways its work already enacts the dispositions the framework describes. Yeats' (1983) account of "invisible labour" reminds us that communicating effectively is hard work — and Heaney's "Republic of Conscience" presents a vision for a kinder more humane way of doing things. The framework is presented as a reflective approach to help navigate the ethical and human dimensions of our evolving education system. The eight principles and their poetic companions are set out in Table 1 below.

Table 1

The CONFRONT framework — principles, poetic companions, and textual anchors

Principle	**Core action**	**Poetic companion**	**Poem**	**Key textual anchor**
C — Communicate	Articulate a clear vision for inclusive change	W.B. Yeats	Adam's Curse	"Our stitching and unstitching has been naught."
O — Opportunities	Create visible, short-term wins for inclusion	Patrick Kavanagh	The Great Hunger (VI)	"God is in the bits and pieces of Everyday."
N — Nurture	Remove obstacles; support new ideas	Eavan Boland	Night Feed	"But we are always waking."
F — Feel	Start with real stories and lived experience	Paula Meehan	The Exact Moment I Became a Poet	"Refusing to be trussed like chickens on a conveyor belt."
R — Reduce	Focus on equity goals; remove distractions	Denise Chaila	spoken word / song	"I am tired of proving that I am as much Denise / As I am Mwaka."
O — Ownership	Empower communities to act and lead	Michael Longley	Ceasefire	"I get down on my knees and do what must be done."

N — Nudge	Use small, strategic incentives for change	W.B. Yeats	To a Wealthy Man…	"Look up in the sun's eye and give / What the exultant heart calls good."
T — Trust	Build trust as the foundation for long-term change	Seamus Heaney	From the Republic of Conscience	"No credentials / but my own story and my own voice."

Each principle in the CONFRONT framework corresponds to a dimension of Universal Design practice. "Communicate" reflects UD's obligation to make complex ideas accessible to all. "Opportunities" reflect equitable use — a commitment to ensuring every learner has a pathway to participation. "Nurture" reflects the willingness to remove barriers rather than penalize difference. "Feel" reflects simple and intuitive use based on the lived experience of the learner. "Reduce" by removing institutional red tape and barriers. "Ownership" reflects flexibility in use — empower communities to shape the systems they use. "Nudge" — create conditions that encourage incremental change. "Trust" the foundation stone without which Universal Design remains a compliance exercise rather than a transformative practice.

Read across the table, the framework spans the breadth of the tradition: Yeats's account of invisible labour (1983) and his appeal to principled generosity, Kavanagh's attention to the everyday (2004), Boland's elevation of the domestic (2008), Meehan's refusal to be processed (2013), Denise Chaila's insistence on a whole, undivided identity (2026), Longley's radical empathy (1995), Yeats's conviction that we should trust the giving itself creates the conditions to follow (1914), and Heaney's republic of conscience where there is a more humane and compassionate way to run systems (1985). Sustainable, inclusive change asks people to sit with vulnerability, take legacy barriers apart, and build trust the slow way, and that is a human task before it is a technical one.

Educational technologists as ecosystem custodians

> *Believe that a further shore / Is reachable from here.*
> *— Seamus Heaney, The Cure at Troy (1990)*

This paper proposes ecosystem custodian as the role for educational technologists going forward: less the builder of tools, more the custodian of the conditions under which learning can work for everyone. That asks for technical skill and pedagogical knowledge, certainly, but also for the kind of empathy and ethical attention that reading poetry tends to cultivate.

Edyburn (2010) put it plainly: anticipating difference can remove the need for accommodation altogether. That is also what a poet does — imagining the full range of a reader's experience before a word is set down. CONFRONT is offered here to inform this "imaginative discipline," applied to the design of learning environments rather than to a poem.

Conclusion

This paper has argued that poetry can do real work in rebalancing the algorithm in educational technology. The CONFRONT framework, anchored in Yeats and Heaney, Boland, Kavanagh, Meehan, Longley, and Chaila, gives that argument both a philosophy and something close to a method, at a moment when algorithmic influence over learning is only going to grow.

The implications for this argument are threefold. For theory, it suggests that ecosystem custodian offers a more relational and ethically grounded description of the evolving role of an educational technologist. For policy, it argues that Universal Design must be embedded in the governance frameworks for AI in education

and finally for practice that the CONFRONT framework can serve as a reflective tool for educational technologists.

In our haste to innovate, we must not lose the depth and breadth of our collective experience in the design of learning ecosystems. We must continue to strive for a "magical way of seeing the world" (Magan, 2020) retaining the cultural capital and doxa (Bourdieu, 2000) of the field of educational technology. As Manchán Magan (2020) reminds us:

> *The richness of a language closely tied to the natural landscape offered our ancestors a more magical way of seeing the world. Before we cast old words aside, let us consider the sublime beauty and profound oddness of the ancient tongue that has been spoken on this island for almost 3,000 years*

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