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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Designing inclusive learning spaces for quality and scale in the postdigital era: Extending UDL through practitioners' perspectives

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Higher education is undergoing rapid transformation under the development of artificial intelligence (AI). In Australia, universities face the dual challenge of maintaining educational quality while supporting increasingly large and diverse learner cohorts. Although AI has heightened concerns about academic integrity by disrupting traditional notions of originality and assessment, this focus has often overshadowed broader opportunities for reimagining teaching and learning. Universal Design for Learning (UDL) provides a foundation for inclusive learning at scale; however, its application to AI-integrated higher education remains underexplored and warrants renewed attention for advancing inclusive, quality education. This pilot study investigated Australian university practitioners' perceptions of opportunities and challenges associated with designing inclusive learning spaces with the integration of AI. Qualitative analysis identified three interconnected themes: inclusiveness, agency, and wellbeing. Building on UDL principles, we propose starting points for work to begin with design features that support scalable and quality postdigital learning spaces.

Keywords: higher education, artificial intelligence, universal design for learning (UDL), learning spaces, scale and quality, postdigital, pilot study

Introduction

Australian higher education is facing unprecedented pressure to quickly adapt to modern society, advocating for a better and fairer educational system, whilst reconfiguring teaching and learning in response to the rise of artificial intelligence (AI). In particular, the sector is navigating two concurrent imperatives: the need to scale participation and maintain educational quality and pressure to meet the 55% equitable access by 2050 set by the Australian University Accord (O'Kane et al., 2024), whilst upholding educational quality in response to AI expected by the Tertiary Education Quality and Standards Agency (TEQSA) (Lodge et al., 2026). The two concurrent and competing imperatives of scale and quality must be addressed through the pragmatics of teaching and learning, extending beyond just theory and policy.

Despite the urgency of these challenges, institutional responses have largely prioritised compliance over pedagogy, focusing on "policing" and "detecting" AI use (Joseph & Areepattamannil, 2025). This has produced

extensive administrative and procedural guidelines, but little consensus on what constitutes "quality" education (Chan et al., in press). Quality is often reduced to academic integrity and standardisation, rather than understood as supporting meaningful participation and success for diverse learners. Likewise, scale is

often framed as expanded participation alone, rather than sustaining quality for increasingly diverse cohorts in shared learning environments (Edgar et al., 2023). As a result, compliance-oriented approaches may address integrity concerns, but offer limited guidance on pedagogically integrating AI to support both quality and scalable participation.

To achieve both institutional priorities and pedagogical practice, it is critical to include learning spaces as a key item in the implementation of the quality education agenda. This study conceptualises learning spaces through a postdigital lens, extending beyond physical or digital environments to assemblages of people, places, ideas, experiences, materials, and technologies increasingly mediated by AI (Jandrić et al., 2018). Consequently, designing and engaging in postdigital learning spaces requires attention to how AI reconfigures the design conditions for scalable and quality education.

Thus far, Universal Design for Learning (UDL) (CAST, 2024) is used to support designing inclusive and quality learning spaces at scale through multiple means of engagement, representation, and action and expression (Edgar et al., 2023). However, its application in tertiary contexts remains contested (Fornauf & Erickson, 2020). Originally developed for K-12 settings, its translation to higher education requires adaptation to address disciplinary complexity, learner autonomy, and institutional structure variations (Rao et al., 2015). Fovet (2018) criticises that UDL has limited empirical validation in higher education, broad and sometimes ambiguous principles, and the challenges and difficulties of implementation in scale. While UDL provides a useful foundation, current approaches remain fragmented and offer insufficient guidance for designing inclusive postdigital learning spaces that can sustain quality alongside scalable participation.

To address these challenges, this pilot study examines higher education practitioners' perspectives, including lecturers and learning designers, on the perceived opportunities and concerns associated with inclusive learning spaces in AI integrated contexts. In doing so, it identifies how current knowledge, often informed by UDL frameworks, is being understood within postdigital learning spaces.

Methods

A qualitative case study approach was used to obtain an in-depth, multifaceted understanding, along with rich description and interpretations of university learning spaces (Yin, 2009). Data were collected from 23 participants representing a range of professional and academic roles across Australian universities. Participants self-selected to attend a national Scholarship of Teaching and Learning (SoTL) conference workshop in 2025 that explores opportunities and challenges associated with AI in higher education learning spaces. The workshop adapted the problem definition stage (Asano, 2023; Dunne, 2018) of design thinking to guide them to investigate their perceived challenges concerning AI in the context of learning spaces, particularly tensions and opportunities from a broader to a narrower lens. Using reflexive thematic analysis of workshop artefacts – "How Might We…" statements that focused on the development of AI literacy, guiding learners, ethical decision-making in AI use, inclusive design, and sustaining human connection within technology-mediated spaces – the findings were discovered through iterative cycles of coding. The coding was initially undertaken independently by members of the research team, starting with familiarisation, then inductive coding, pattern development and theme generation. The themes were reviewed and refined through collaborative discussion and interpretation before writing the paper to complete the six phases (Braun & Clarke, 2022). Ethical approval was not required for this study in accordance with institutional guidelines, as it was conducted within a professionally situated workshop and did not involve the collection of personally identifiable information. Participation was voluntary, and attendees were informed of the intended use of workshop outputs for research purposes. All data were collected in non-identifiable form. Participants were also offered the opportunity to contribute to the dissemination of findings, including authorship where appropriate.

Results

Three key themes were identified through reflexive thematic analysis: inclusiveness, agency, and wellbeing. They reflect the practitioners' perceptions of the opportunities and risks associated with AI integrated postdigital learning spaces and align with the broader considerations of scale and quality in higher education.

Participants clearly recognised AI's inherent capabilities, such as its assistive functionality can promote learner agency when more personalised learning is facilitated to support diverse learners' needs; more importantly, it can "break structured barriers to participation of marginalised!!" However, staff were cognisant of trade-offs between agency and harm at scale if design is not appropriately considered. AI can potentially reduce or even remove learners' active engagement with their studies when they "outsource thinking" or "relying on AI as a crutch" respectively. Furthermore, the participants also "worried" that the "algorithmic biases" along with some cohorts facing "(un)equal access to [AI] technologies" due to systemic power imbalances. These biases were likely represented in AI outputs as stereotypes or other forms of representation that could cause harm and disrupt a sense of belonging. As one wrote "[AI] is a sociopath." If learner use of AI is left unchecked or unguided, then AI can reinforce stereotypes and structural bias. Lack of action will not only lead to missed opportunities of inclusiveness but also realise actual harms. To balance quality and scale, the pedagogy of kindness appeared to be the key to facilitate inclusive and psychologically "safe," "supported," and "fail forward" learning spaces that "normalise learners using AI to test their thoughts, ideas, assumptions, so they feel confident to share with peers." Interestingly, the notion of kindness extended into the relational space between teacher and learner: "It is not them and us, its ALL of US - we are in it together." The overall emphasis is the importance of balancing quality, encapsulating trust, empathy, and meaningful connection and being scalable for diverse learner voices and experiences.

Themes of inclusion, agency and wellbeing, which align with the UDL principles of engagement, representation, and action and expression, clearly emerged from the thematic analysis, highlighting a need for learner-centred approaches for responding to AI-integrated postdigital learning spaces. UDL 3.0 has relevance for a higher education context and is informed by the opportunities and risks that surfaced from the participants' voices presented here. Across all themes, participants highlighted the importance of designing learning spaces that support meaningful participation for diverse learners while maintaining educational quality.

Discussion

This pilot study contributes to emerging research on AI in higher education in three key ways: by foregrounding practitioner perspectives, identifying inclusiveness, agency and wellbeing as integrated design dimensions for how learning spaces can support quality and scale. While existing research focuses on learner experience, institutional policy and practitioner perspectives (Chung et al., 2026; Shata & Hartley, 2025), this study extends to how practitioners understand the opportunities and risks of AI for inclusive postdigital learning spaces.

Participants described quality as relational and participatory, broadening the conversation beyond compliance. Concerns about bias, uneven access, overreliance on AI and diminished engagement suggest that quality depends not only on access to technology, but on learners' capacity to participate, exercise judgement, and maintain meaningful connections. Similarly, scale was viewed not simply as expanded participation, but as supporting diverse learners without reducing learning to standard processes. Consistent with postdigital perspectives, quality and scale are produced through interactions among people, technologies, materials and practices rather than fixed measures (Holmes et al., 2019).

UDL provides a useful foundation for designing inclusive learning spaces through flexibility, representation and responsiveness to learner diversity (CAST, 2024). However, participants identified challenges associated with AI bias, cognitive offloading, misinformation, anxiety and diminished human connection that extended beyond established interpretations of UDL. These findings reinforce existing critiques regarding the complexity of applying UDL in higher education contexts (Fovet, 2021; Rao et al., 2014).

The findings in Table 1 connect each risk or opportunity identified by practitioners with a potential design response. The features are not proposed as a framework, but empirically informed starting points for extending UDL into postdigital learning spaces. They discuss inclusion, agency, and wellbeing as interdependent dimensions for quality and scale.

Table 1.
Opportunities, risks, and design features that could be considered to address scale and quality

Dimension	Opportunities	Risks	Design response
Inclusiveness	Assistive functionality; Personalised learning; Supporting learners' diverse needs; Alternative forms of representation	Unequal access to AI; Varying levels of AI literacy; Reinforcement of bias in AI outputs	Equitable access to AI; AI literacy development; Guidance on ethical use of AI; Evaluative judgement on inherent bias; Multiple pathways for participation
Agency	Making decisions about use of AI; Critically evaluating AI outputs; Using AI as a support for idea development	Cognitive offloading; Diminished critical thinking; Reliance on AI as an "answer"	Position AI as an assistant; Teach critical thinking for AI; Tasks require judgement and reflection; Scaffold prompting and output critique
Wellbeing	AI can support experimentation; Reduced barriers to participation; Build confidence in sharing ideas	Uncertainty about rapid technological change; Anxiety about misinformation; Pressure to engage with unfamiliar tools	Nourish experimentation; Privilege human connection and guidance; Set transparent expectations; Provide collaborative reflection opportunities; Consider relational and affective spaces

Inclusiveness extends UDL commitments to learner diversity by addressing equitable participation in postdigital learning spaces. While participants recognise opportunities associated with personal learning and assistive functionality, they also identified concerns regarding unequal access, AI literacy and bias. Recent findings also suggest that neurodivergent learners or those with disabilities may be less likely to use AI (Carik et al., 2025). Consistent with social justice perspectives (Edgar et al., 2023), the proposed response emphasises equitable access, ethical AI use, critical evaluation of outputs and multiple pathways for participation.

Agency emerged through concerns about cognitive offloading, diminished critical thinking and overreliance on AI. Although AI can support experimentation and idea development, participants emphasised the importance of learners retaining responsibility for decisions and evaluating outputs. Therefore, the proposed response positions AI as an assistant rather than an authority and emphasises judgement, critique and reflection.

Wellbeing reflects recognition that AI may simultaneously reduce barriers while generating uncertainty, anxiety and pressure to engage with new technologies. These findings suggest that quality should not be evaluated solely through performance or access, but also through learners' sense of safety, connection and capacity to navigate change. This aligns with wellbeing literacy perspectives that emphasise resilience, autonomy, and relational participation in learning (Bouakaz & Khalid, 2025; Oades et al., 2021). The three dimensions (Table 1) demonstrate how inclusiveness, agency, and wellbeing could be considered together rather than as separate design concerns. The design responses provide a basis for extending UDL with postdigital learning spaces, while balancing quality and scale.

Conclusion

This case study has identified the opportunities and challenges associated with postdigital learning spaces collected from university professional and academic practitioners in Australia, and proposed possible design responses incorporating inclusiveness, agency, and wellbeing that may assist balancing scale and quality. These findings are limited to workshop artefacts from participants who self-selected to attend a national

conference and do not capture learners' experiences directly. However, the pilot study provides an important exploratory contribution by foregrounding practitioners' perspectives, which are often underrepresented in discussions of quality and scale in higher education. Participants consistently articulated opportunities to broaden the scale of participation and, without careful pedagogical design, risks of undermining educational quality.

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