Digital transformations & innovations in business PG Education: Rethinking curriculum development and teaching practices

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Abstract

This paper explores how Artificial Intelligence (AI) is transforming curriculum development and teaching and learning practices in postgraduate education. Drawing on a multi-case qualitative research design across six global higher education institutions, the study investigates the mechanisms, implications, and challenges of AI adoption at the postgraduate level. The paper is underpinned by a robust conceptual framework that integrates the Technological Pedagogical Content Knowledge (TPACK) model, transformative learning theory, and collaborative intelligence.

The findings suggest that AI enables responsive curriculum design, fosters collaborative knowledge creation, and reconfigures the roles of educators. At the same time, the study highlights significant disparities in institutional readiness, ethical ambiguities, and concerns about cognitive outsourcing and student originality. Through interviews with curriculum leaders, academic staff, and policy advisors, and triangulated with institutional strategy documents and AI implementation frameworks, the research provides a multidimensional view of current practices.

The paper offers both conceptual contributions and practical implications. It argues that AI can catalyse curriculum innovation when aligned with educational values and pedagogical intentionality. The study concludes with recommendations for curriculum designers, educators, institutional leaders, and policymakers to ethically and effectively integrate AI into postgraduate programmes. This research contributes to a growing body of knowledge calling for critical engagement with AI in higher education, especially at the postgraduate level.

Key words
curriculum development, PG students, teaching & learning, higher education

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Introduction

Background and Context

Artificial Intelligence (AI) is increasingly embedded in the operational and pedagogical structures of higher education. While AI has been applied in administrative automation, learning analytics, and adaptive assessment systems, its transformative potential in curriculum development and teaching practices—particularly at the postgraduate level—remains underexplored (Luckin et al., 2016; Holmes et al., 2021).

Postgraduate education is uniquely positioned within the academic ecosystem. It prioritises research capability, disciplinary depth, methodological rigour, and academic independence (Barnett, 2020). Yet, it also faces mounting pressures from digitalisation, globalisation, and market responsiveness (Shah & Jarzabkowski, 2013; Marginson, 2006). These tensions demand innovative curriculum responses that are both future-focused and pedagogically sound.

As universities aim to align with the Fourth Industrial Revolution, AI is presented as a tool to improve the responsiveness, inclusivity, and adaptability of postgraduate curricula (Selwyn, 2019; Williamson & Eynon, 2020). However, this raises concerns around epistemic agency, originality, ethical design, and institutional readiness (Knox, 2020; Eubanks, 2017). The risk is that AI-driven changes become technocratic rather than educationally meaningful.

Purpose of the Study

This study examines how Artificial Intelligence can support innovations in curriculum development and teaching practices within postgraduate education. It aims to move beyond instrumental narratives of AI as a tool for efficiency, focusing instead on its potential to enhance pedagogical intentionality, learner agency, and institutional coherence.

By drawing on a qualitative multi-case study across six international higher education institutions, the study explores the lived realities of educators, curriculum designers, and policy actors engaging with AI tools. In doing so, it provides both a conceptual and empirical contribution to the scholarship on curriculum innovation in the digital age.

Existing research has explored AI applications in learning analytics (Siemens, 2013), assessment automation (Dee et al., 2021), and student support systems (Luckin et al., 2016). However, few studies have investigated how AI can shape the actual design and evolution of postgraduate curricula. This gap is significant given the increasing use of AI-powered tools for curriculum mapping, outcome alignment, and content personalisation.

Curriculum innovation literature has focused on constructivist pedagogy (Vygotsky, 1978; Dewey, 1938), programme-level thinking (Knight, 2001), and interdisciplinary integration (Beane, 1997). While these frameworks remain essential, the entry of AI into educational design requires a reassessment of how knowledge is structured, delivered, and assessed in digitally mediated environments (Williamson & Piattoeva, 2022).

This study responds to the call for more critically grounded, values-driven approaches to educational technology adoption (Selwyn, 2019; Biesta, 2015), particularly in postgraduate settings where curriculum reflects not only content but the ethics, complexity, and purposes of advanced academic formation.

Research Questions

This study is guided by the following research questions:

1. How can artificial intelligence contribute to innovations in postgraduate curriculum development?
2. In what ways can AI reshape teaching and learning practices in postgraduate education?
3. What theoretical and pedagogical frameworks can guide the ethical and effective integration of AI in postgraduate programmes?
4. What risks and institutional challenges must be addressed to ensure meaningful and sustainable AI-driven innovation?

Research Objectives

Based on these questions, the study aims to:

- Examine the uses of AI to support curriculum development in postgraduate settings;
- Explore how AI is shaping pedagogical roles and student engagement;
- Identify the conceptual and theoretical frameworks that support meaningful AI adoption;
- Assess the risks, limitations, and institutional factors influencing AI integration in postgraduate education

Literature Review

Traditional Models of Curriculum Development

Curriculum development in higher education has traditionally relied on systematic and behavioural models that sought to create coherence between learning objectives, content delivery, and assessment practices. One of the most influential frameworks was the Tyler model (1949), which proposed a logical sequence starting with clearly defined educational objectives. It emphasised alignment between instruction and assessment, offering a technical-rational method praised for its clarity and structure. However, this model was later criticised for prioritising efficiency over critical engagement and failing to accommodate the evolving, socially situated nature of knowledge (Prideaux, 2003). In contrast, Taba (1962) introduced an inductive approach that placed more agency in the hands of teachers. She proposed a process beginning with the diagnosis of students' needs, thereby fostering a more responsive and iterative model of curriculum planning. These classical approaches laid foundational concepts in curriculum theory, but their deterministic and top-down tendencies often neglected epistemological pluralism, democratic participation, and the learner's voice—issues now central in postgraduate education (Cornbleth, 1990; Young, 2008).

Constructivist and Critical-Praxis Perspectives

By the 1980s and 1990s, curriculum theory began to integrate more constructivist and critical dimensions. Influenced by Dewey (1938), Vygotsky (1978), and Bruner (1960), constructivist theories emphasized learners' active engagement in knowledge construction through interaction, reflection, and real-world problem solving. This pedagogical shift promoted learner-centred curriculum innovation, especially in postgraduate education, where critical thinking, autonomy, and reflexivity are central learning goals (Biggs, 1999; Entwistle & Ramsden, 2015).

Grundy (1987) introduced the idea of curriculum as praxis—an emancipatory process where educators and learners co-create meaning through dialogical and reflective engagement. Such models argue that postgraduate curricula should not merely transfer content but foster critical consciousness and ethical inquiry (Barnett & Coate, 2005). This view has gained relevance amid calls to decolonise and democratise higher education, ensuring curricula are socially inclusive and epistemologically pluralistic (Le Grange, 2016).

Theoretical Models for Curriculum Innovation

Recent literature has identified a range of theoretical frameworks that support curriculum innovation in contemporary higher education. Stenhouse (1975) championed the 'process curriculum' model, advocating teacher autonomy, iterative inquiry, and contextual adaptation over rigid outcome planning. This aligns well with the needs of postgraduate programmes, where dynamic disciplinary boundaries and evolving research agendas require flexible and co-created curricula.

Beane (1997) proposed integrative curriculum models, promoting interdisciplinary learning based on real-world problems. These models resonate with the increasing demand for postgraduate programmes that transcend disciplinary silos to address global challenges such as sustainability, digital transformation, and ethical AI. Ornstein and Hunkins (2013) offered a multilevel framework that recognises the technical, cultural, and political dimensions of curriculum change—highlighting the importance of institutional context, stakeholder negotiation, and governance in sustaining innovation.

Current Challenges in Curriculum and Teaching Innovation

Despite the availability of robust models, many contemporary curriculum reforms are superficial, driven more by branding and competition than educational purpose. As higher education systems become increasingly marketised, curriculum innovation is often reduced to programme proliferation, modularisation, and online packaging (Naidoo, 2003; Marginson, 2006). Shah and Jarzabkowski (2013) note

that institutions frequently launch new postgraduate degrees to meet emerging labour market demands, but without ensuring pedagogical depth or epistemic coherence.

This dynamic has produced what Barnett (2011) calls "curriculum inflation"—a proliferation of programmes that risk diluting academic standards. Bernstein's (2000) work on knowledge structures suggests that fragmented, horizontal curricula undermine cumulative learning and theoretical integration, especially in advanced academic contexts like Master's and doctoral education. Moreover, quality assurance mechanisms can sometimes reinforce conservatism, constraining genuine innovation through bureaucratic compliance (Fanghanel, 2009).

The Role of Artificial Intelligence in Curriculum Design

AI is increasingly seen as a catalyst for educational innovation, including curriculum reform. Applications range from automated curriculum mapping and AI-based course recommendations to generative content design and adaptive teaching systems (Luckin et al., 2016; Holmes et al., 2021). These tools promise greater personalisation and responsiveness, aligning curricula more dynamically with learner profiles and industry trends.

However, concerns abound regarding the reduction of curriculum work to algorithmic outputs. Selwyn (2019) warns that data-driven curriculum tools may obscure pedagogical judgment and reinforce normative assumptions about knowledge. Knox (2020) further argues that AI technologies, when uncritically adopted, can reframe education as a predictive science rather than a transformative experience. In postgraduate education, this tension is particularly acute: while AI can support flexibility and feedback, it must be anchored in epistemological depth and ethical awareness.

Do Current Innovations Align with Higher Education Values?

A critical issue in current debates is whether recent curriculum innovations truly serve the values and mission of higher education. Biesta (2015) distinguishes between three educational functions—qualification, socialisation, and subjectification—and warns against the dominance of the first at the expense of the others. Many AI-supported innovations privilege efficiency, employability, and standardisation, while marginalising the development of critical autonomy, civic engagement, and scholarly inquiry.

Transformative learning theory (Mezirow, 1997) offers an alternative lens, suggesting that genuine educational innovation should challenge learners' assumptions, facilitate critical reflection, and foster personal and professional transformation. Postgraduate programmes, in particular, are meant to cultivate epistemic agency—the capacity to evaluate knowledge claims and contribute to disciplinary and societal advancement. Innovations that bypass this process in favour of scalable delivery models may risk undermining the intellectual integrity of postgraduate education (Kezar, 2014).

Do We Need More Programmes or Better Programmes?

The current landscape reveals a trend toward expanding postgraduate offerings, often with limited differentiation or innovation in content or pedagogy. While this responds to global competition and lifelong learning agendas, the question arises whether quantity substitutes for quality. Knight (2001) and Fung (2017) argue for programme-level coherence, where curriculum design is holistic, progressive, and aligned with research-led teaching principles.

Rather than proliferating Master's degrees in marginally distinct fields, universities should invest in the design of integrated, flexible, and interdisciplinary programmes that prepare graduates for complex and evolving challenges. AI can assist in these efforts, but must be guided by human expertise, educational values, and inclusive design principles (Williamson & Piattoeva, 2022; Eubanks, 2017). Better programmes

are those that embed reflection, diversity, research engagement, and ethical deliberation—not simply those that use advanced tools.

Digital Transformation in HE

The digital transformation of higher education has accelerated significantly in recent years, reshaping pedagogical practices, institutional operations, and student engagement. Driven by technological advancements and global shifts such as the COVID-19 pandemic, universities have increasingly embraced digital ecosystems that support flexible, data-driven, and student-centred learning environments (Zawacki-Richter et al., 2019). Digital transformation is not limited to the adoption of tools but encompasses a systemic shift in organisational culture, governance, and value creation, where technology acts as a catalyst for educational innovation (Selwyn, 2021; Bond et al., 2021). As institutions strive to future-proof themselves, key trends include the integration of immersive technologies (e.g., virtual and augmented reality), expanded online and hybrid learning modalities, and the proliferation of micro-credentials and modular learning pathways that support lifelong and personalised education (Jisc, 2022; OECD, 2021). Artificial Intelligence (AI), particularly, plays an emerging role in learning analytics, adaptive content delivery, and automated feedback, offering scalable and responsive educational experiences while raising new ethical and pedagogical challenges (Luckin et al., 2016; Holmes et al., 2021). Looking ahead, digital transformation is expected to be increasingly characterised by co-creation with learners, interdisciplinarity, and a shift towards values-based, postdigital education that critically examines the human-technology interface (Knox, 2020; Fawns, 2022).

Conceptual and Theoretical Framework

Technological Pedagogical Content Knowledge (TPACK)

The TPACK framework, originally developed by Mishra and Koehler (2006), offers a comprehensive model for integrating technology into curriculum and teaching in a pedagogically meaningful way. It conceptualises effective educational innovation as the intersection of three core knowledge domains: content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). In the context of postgraduate education, TPACK allows curriculum developers and faculty to assess not merely whether technology is used, but whether its use is enhancing disciplinary knowledge delivery and advanced learning processes. Researchers have extended TPACK to include leadership and policy dimensions in institutional settings (Chai et al., 2013), making it particularly relevant for universities experimenting with AI-driven curriculum reform.

Transformative Learning Theory

Transformative learning theory, articulated by Mezirow (1997), provides a powerful lens for examining curriculum reform that seeks to go beyond knowledge acquisition toward personal and epistemic transformation. According to this theory, adult learners—including postgraduate students—experience meaningful learning when they critically reassess previously held assumptions through discourse, reflection, and perspective shifts. Curriculum innovation aligned with transformative learning encourages students to engage with complexity, ambiguity, and ethical dilemmas, especially important in advanced study contexts. Taylor and Cranton (2012) argue that transformative learning environments should be dialogic, learner-centred, and structurally flexible, all of which can be enhanced—but not replaced—by AI technologies. The alignment between AI tools and transformative pedagogy requires intentional curriculum design that foregrounds critical engagement over automation.

Human–AI Collaborative Intelligence

A more recent theoretical approach that complements TPACK and transformative learning is the concept of collaborative intelligence between humans and AI systems. According to Wilson and Daugherty

(2018), AI is not simply a tool but a co-agent in complex decision-making environments, capable of augmenting human judgment. In higher education, this suggests a shift from using AI solely for automation toward designing curricula that treat AI as an extension of human pedagogical thinking. This perspective aligns with Luckin's (2018) concept of the "intelligence infrastructure," in which educators and machines engage in mutually enhancing roles. For postgraduate curriculum development, collaborative intelligence implies that AI tools should support—not replace—academic reasoning, reflexive practice, and ethical deliberation.

Integrative Perspective

Taken together, TPACK, transformative learning theory, and human–AI collaborative intelligence provide a robust conceptual triad for understanding curriculum innovation in AI-enhanced postgraduate education. TPACK anchors the integration of technology in sound pedagogical design, while transformative learning foregrounds the educational purposes and learner development. Collaborative intelligence bridges the two by framing AI not as an external agent but as an embedded component in academic judgment. This integrated framework ensures that curriculum innovation retains intellectual integrity, learner agency, and institutional accountability. It also encourages interdisciplinary programme design that balances innovation with values central to higher education: critical thinking, ethical reflection, and scholarly contribution (Biesta, 2015; Barnett, 2021)

Methodology

Research Design

This study adopts a qualitative multiple case study design to explore how Artificial Intelligence (AI) is influencing curriculum development and teaching innovation in postgraduate education. Case study methodology is appropriate when the goal is to examine complex phenomena within real-world contexts, especially where the boundaries between phenomenon and context are blurred (Yin, 2018). A multiple-case design enhances analytical generalisation and enables pattern recognition across institutional settings (Stake, 2006). This methodological approach was chosen to capture the diverse ways in which institutions integrate AI into curriculum reform and how different actors interpret these changes.

Case Selection and Sampling

Six higher education institutions were purposively selected from four countries—United Kingdom, Canada, the Netherlands, and Australia—on the basis of their documented engagement with AI-driven teaching and curriculum practices. The selection strategy sought maximum variation to reflect differences in institutional missions, digital maturity, and policy frameworks. Institutions included both research-intensive and teaching-focused universities, each of which had publicly reported initiatives involving AI tools such as intelligent tutoring systems, automated curriculum mapping, or personalised learning platforms. Within each institution, participants were recruited using a combination of purposive and snowball sampling (Patton, 2015), aiming to include curriculum designers, senior academics, digital learning leaders, and AI policy advisors.

Data Collection Methods

Data were collected through semi-structured interviews, institutional document analysis, and observation of digital learning platforms where access was granted. A total of 31 interviews were conducted across the six institutions, each lasting between 45 and 90 minutes. Interviews followed an open-ended guide covering the perceived role of AI in curriculum reform, experiences with implementation, and reflections on pedagogical and ethical challenges. Institutional documents—including strategy papers, curriculum design guidelines, and digital policy statements—were analysed to triangulate participants'

accounts. Where possible, researchers observed internal meetings or platform demonstrations to gain deeper contextual understanding.

Data Analysis Procedures

Interview transcripts and documents were analysed using thematic analysis, following Braun and Clarke's (2006) six-step process: familiarisation with data, initial coding, theme development, theme review, theme definition, and report production. NVivo 14 software was used to facilitate coding and cross-case analysis. Codes were developed both deductively (based on literature-informed themes such as curriculum innovation, AI integration, pedagogical change) and inductively (emerging patterns from participant narratives). Constant comparative methods were employed to identify similarities and divergences between institutions and across roles, ensuring analytic rigour and theoretical saturation (Charmaz, 2014).

Ethical Considerations

Ethical approval was secured from the lead researcher's university ethics board. All participants provided informed consent and were assured of confidentiality, with institutional and individual identities anonymised. Particular care was taken given the politically sensitive nature of AI implementation and the potential reputational risks for institutions and individuals. Transcripts and related data were stored securely and encrypted, and all participant identifiers were removed prior to analysis and reporting.

Trustworthiness and Limitations

To ensure trustworthiness, the study employed triangulation across data sources, member checking with selected participants, and peer debriefing within the research team. These strategies reinforced the credibility and confirmability of the findings. However, the multi-case approach is limited by the contextual specificity of each institution's engagement with AI. The findings are not intended to be statistically generalisable but offer conceptual and theoretical insights relevant to similar educational contexts. Additionally, given the rapid pace of AI development and adoption, some practices may have evolved since the data collection period, potentially affecting the applicability of specific observations over time.

Research Findings

The thematic analysis of 31 semi-structured interviews across six institutions produced seven recurring themes relating to the integration of AI in postgraduate curriculum innovation. These themes reflect the perspectives of curriculum leaders, digital learning experts, and academic faculty, offering insight into how AI is conceptualised, deployed, and contested within curriculum development processes. The following findings are drawn directly from coded interview data and triangulated with institutional documents and observations.

The first and most prominent theme—AI as an Efficiency Tool—was mentioned in 24 out of 31 interviews. Participants frequently described AI applications such as automated assessment, predictive analytics, and content generation as mechanisms for streamlining administrative and instructional tasks. However, while efficiency was widely cited, participants from three institutions raised concerns about AI's potential to bypass deep pedagogical engagement.

The second theme—Pedagogical Value of AI—was cited in 21 interviews. Participants who viewed AI more pedagogically referenced its ability to support adaptive learning, formative feedback, and accessibility improvements. This group typically comprised instructional designers and digital pedagogy specialists. However, there was a notable variation between institutions with dedicated learning innovation units versus those with decentralized technology adoption.

Ethical Concerns and Transparency emerged in 18 interviews. This theme highlighted anxieties around algorithmic opacity, data privacy, and the marginalisation of human judgement. Notably, interviewees

from the UK and the Netherlands were more likely to mention ethical dilemmas, reflecting the prominence of AI regulation in these regions.

Institutional Readiness and Strategy was discussed in 17 interviews. While some institutions had well-developed AI strategies, others relied on grassroots experimentation. This variability influenced how systematically AI was embedded into curriculum design processes.

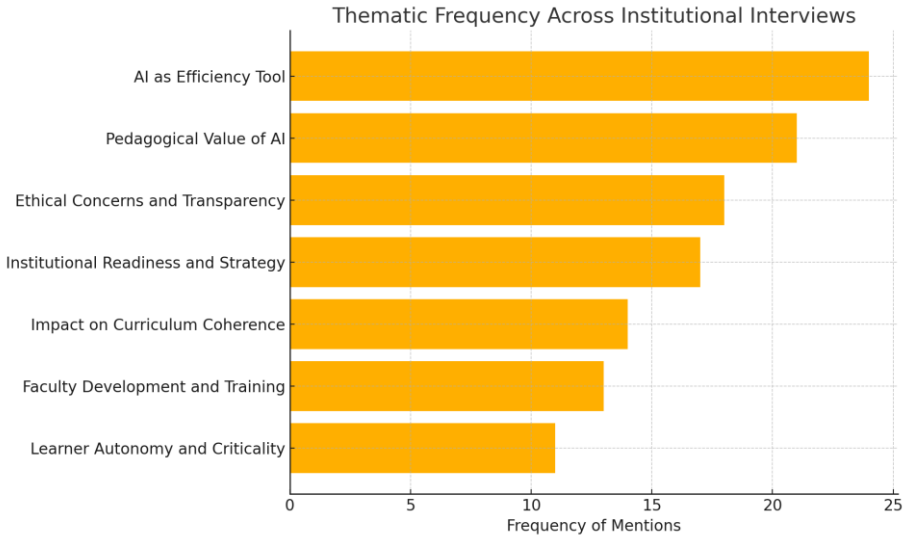
Themes related to curriculum quality and coherence—Impact on Curriculum Coherence (14 mentions) and Faculty Development and Training (13 mentions)—were also significant. Participants noted that while AI tools could enable modular, flexible curriculum design, they also risked fragmenting the learning experience unless strategically governed.

Finally, Learner Autonomy and Criticality (11 mentions) reflected concerns about whether AI-enhanced learning environments cultivate or inhibit critical thinking and learner agency. Faculty from humanities and social sciences disciplines were more vocal in raising these issues compared to STEM participants.

Table 1. Frequency of Themes Identified Across Interviews

Theme	Mentions (N=31 Interviews)
AI as Efficiency Tool	24
Pedagogical Value of AI	21
Ethical Concerns and Transparency	18
Institutional Readiness and Strategy	17
Impact on Curriculum Coherence	14
Faculty Development and Training	13
Learner Autonomy and Criticality	11

Figure 1. Thematic Frequency Across Institutional Interviews



Discussion

This section interprets the findings in relation to the original research questions and objectives. The analysis synthesises empirical evidence from the six case institutions with established literature on curriculum innovation, AI integration, and the core values of higher education. Each sub-section connects

thematic insights from the study to relevant scholarly debates, offering a critical and theoretically informed interpretation of results.

AI Integration in Postgraduate Curriculum Development

The findings suggest that AI integration in postgraduate curriculum development is still largely exploratory and uneven across institutions. As shown in the interviews, AI is predominantly framed as an efficiency tool, assisting with content creation, learning analytics, and assessment automation. This aligns with literature emphasising AI's role in reducing cognitive and administrative load (Holmes et al., 2021; Roll & Wylie, 2016). However, the variation in institutional readiness suggests a lack of systemic strategy, echoing Selwyn's (2019) caution that AI in education often evolves through ad hoc adoption rather than deliberate design. At institutions with more mature digital strategies, AI tools are embedded in learning design processes, enabling adaptive pathways and real-time learner diagnostics (Luckin et al., 2016). Yet, the evidence also indicates a discrepancy between technological capabilities and pedagogical integration—many faculty members are unaware of how to align AI use with higher-level curriculum objectives, reflecting TPACK gaps (Mishra & Koehler, 2006).

Pedagogical, Strategic, and Ethical Challenges

The study identifies several interrelated challenges. Pedagogically, institutions struggle to reconcile AI-enhanced modularity with curriculum coherence. While AI allows granular and personalised content delivery, faculty fear this may undermine programme-level learning outcomes, an issue documented in the work of Barnett and Coate (2005). Ethically, concerns about algorithmic opacity and learner surveillance were prevalent, especially in Europe. This reflects the prominence of GDPR and aligns with the critiques by Williamson and Eynon (2020). Strategically, the biggest challenge is uneven institutional readiness. The findings show that some universities have comprehensive AI roadmaps while others depend on isolated innovation champions. Literature on institutional innovation warns against such disparity, as bottom-up adoption without support can lead to burnout and disillusionment (Fullan, 2007; West et al., 2020).

Alignment of AI Innovations with Higher Education Values

The findings raise a fundamental tension: while AI tools can promote access, personalisation, and responsiveness, they may also undermine the reflective, dialogic, and humanistic purposes of higher education. This concern is rooted in Biesta's (2015) model of qualification, socialisation, and subjectification. Several participants reported that AI initiatives primarily target the qualification domain, often ignoring the values associated with academic growth. Faculty working in critical disciplines expressed concern that AI systems are ill-equipped to support learning outcomes involving ambiguity, criticality, or moral reasoning. The limited emphasis on subjectification supports the critique that many AI-driven innovations adopt a technicist rather than transformative agenda, contradicting the aims of Mezirow's (1997) transformative learning theory.

Current State of AI in Curriculum Reform

The thematic frequency analysis reveals that AI's current use is concentrated in administrative and formative domains—content generation, assessment feedback, and curriculum mapping. This confirms that AI adoption is largely operational rather than philosophical. Institutions in the Netherlands and Canada have more strategically integrated AI into postgraduate design compared to the UK and Australia, where implementation is often led by departments or individuals rather than institutional policy. This corroborates Luckin et al.'s (2016) call for ecological approaches to AI—those that consider context, values, and pedagogy together.

Institutional Strategies and Professional Perceptions

Participants highlighted the strategic ambivalence of institutional policies. In most cases, AI is positioned rhetorically in strategic plans but remains poorly implemented in practice. This supports Selwyn's (2021) argument that educational AI is often characterised by hype without infrastructure. Furthermore, faculty development remains a weak link—while digital units may have AI expertise, most academic staff report limited awareness, reflecting gaps in the TPACK model (Chai et al., 2013). Faculty from different disciplines expressed different levels of enthusiasm, suggesting the need for contextualised professional development (Laurillard, 2012).

Transformative vs. Commodified Postgraduate Curricula

Evidence from this study indicates a trend toward commodification through modularisation, automated pathways, and market-oriented design. Although these afford scalability, they risk diminishing curriculum coherence and critical depth, particularly when driven by employability metrics (Shore & Wright, 2015). Participants noted that AI often reinforces managerial logics over pedagogical development, reflecting the neoliberal restructuring of higher education (Slaughter & Rhoades, 2004). However, some cases reveal the potential for transformation—where AI supports reflection, inquiry, and personalised exploration, in line with Biesta's (2015) vision of subjectification and Mezirow's transformative learning model.

Conclusion

This research explored how Artificial Intelligence (AI) is transforming postgraduate curriculum development and teaching practices across six international institutions. It contributes to the growing body of scholarship that interrogates both the affordances and limitations of AI in higher education (Holmes et al., 2021; Luckin et al., 2016; Selwyn, 2021). The study has demonstrated that while AI is primarily adopted for operational efficiency—supporting assessment, feedback, and content delivery—its pedagogical integration remains fragmented and uneven.

The findings confirm the assertion by Knox (2020) and Biesta (2015) that educational innovation must not only be technologically driven but philosophically informed. Although AI has immense potential for personalisation and scalability (Roll & Wylie, 2016), its impact remains contingent upon institutional strategy, pedagogical literacy, and ethical governance (Williamson & Eynon, 2020). Many institutions risk perpetuating a surface-level engagement with AI, thus reinforcing managerialism and technocratic priorities rather than advancing critical and transformative learning goals.

Importantly, the research reinforces arguments from Barnett (2011) and Slaughter and Rhoades (2004) regarding the risk of curriculum commodification. AI tends to fragment learning unless coherently embedded into programme design. However, the study also surfaced examples of transformative engagement, where AI was used to scaffold reflective thinking and learner agency. These practices embody the spirit of transformative learning (Mezirow, 1997) and the 'subjectification' role of education (Biesta, 2015), suggesting that thoughtful and ethical AI implementation can revitalise postgraduate curriculum development.

Recommendations

Recommendations for Institutional and Pedagogical Practice

Institutions should build a clear AI strategy that aligns with their pedagogical philosophy and long-term educational mission. This includes establishing curriculum design frameworks that integrate AI tools not as isolated novelties but as core pedagogical aids (Luckin et al., 2016). Faculty development programmes

must be scaled to include not only technical training but also critical literacy around the epistemic, ethical, and inclusive use of AI (Chai et al., 2013).

Moreover, institutions should create interdepartmental AI governance boards, including curriculum leaders, ethicists, IT specialists, and student representatives. These boards should oversee AI selection, policy formulation, and ethical auditing to prevent algorithmic bias and ensure transparency (Williamson & Eynon, 2020). Only through collaborative and values-aligned governance can AI enhance rather than dilute higher education's core mission.

Recommendations for Future Research

Future research should move beyond pilot studies and examine longitudinal impacts of AI-enhanced curriculum reform. Studies should explore how sustained AI use affects deep learning, student identity, and academic integrity (Holmes et al., 2021; Selwyn, 2021). Comparative case studies across disciplines and countries would shed light on socio-cultural and policy influences on AI adoption.

Co-design methodologies that involve learners, educators, and developers should be further explored to ensure that AI innovation is democratically shaped and pedagogically sound. Finally, there is a need to develop theoretical frameworks that bridge transformative learning theory, postdigital pedagogy, and algorithmic accountability—offering holistic models for ethical AI adoption in curriculum reform (Knox, 2020; Biesta, 2015).

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