Bridging the Digital Divide in Higher Education: From Access to Empowerment

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Education is undergoing a profound digital transformation. From cloud-based platforms and virtual learning environments to AI-powered tools and large language models (LLMs), how students engage with content, faculty, and each other is being reshaped in real-time. These technologies offer new pathways for learning, but simultaneously surface urgent questions of equity: Who benefits from them? Who gets left behind? The digital divide is not new, but it is changing. Previously defined by device ownership or internet access, digital inequality now includes access to and meaningful use of paid generative AI tools. A new, multifaceted layer of inequity is emerging, intersecting financial, technological, and cognitive dimensions.

In a recent roundtable event with McGraw-Hill and colleagues from across the higher education sector, we convened to explore these pressing issues. Discussions ranged from curriculum redesign to staff capability-building, yet a unifying concern emerged: digital inequity is not merely a technological issue but a structural and societal one. It reflects broader socioeconomic forces but is reproduced within higher educational institutional practices. As educators, curriculum designers, and academic leaders, our responses can perpetuate or disrupt this divide. This article extends that conversation by examining how digital inequity is shifting in the era of generative AI and the critical role digital platforms play in mitigating or exacerbating it.

The term “digital divide” has often been reduced to whether students have access to devices or not. But this framing now falls short. Access today is layered, encompassing broadband stability, platform compatibility, digital confidence, and, increasingly, the ability to use AI tools meaningfully. Previous research from the Office for Students (OfS, 2020) highlighted how digital poverty continues to disproportionately affect students from disadvantaged backgrounds, many of whom face unreliable internet, outdated devices, and limited access to learning spaces. But recent shifts in digital learning, particularly the emergence of generative AI, have introduced a new pressure point. While some students can afford subscriptions to tools like ChatGPT Plus or Grammarly Premium, others rely on basic, free versions or encounter institutional firewalls that restrict access entirely. This creates a growing asymmetry, not only in what students can access but also in how effectively they can study, write, problem-solve, and engage with their learning.

Put simply, the digital divide is no longer just about connectivity; it is also about capability and affordability.

Digital platforms play a decisive role in shaping the accessibility and equity of the learning experience. Learning management systems, AI-driven tutoring tools, and open educational resources have the potential to reduce barriers, but only if inclusivity is

embedded by design. Initiatives like Open University's OpenLearn and platforms such as Coursera and FutureLearn have broadened access to digital learning. Yet sector-wide uptake and equitable participation remain uneven.

Addressing the digital divide requires collaboration between institutions and platform providers to ensure the design is inclusive. This means designing for diversity from the outset. Ensuring platforms are compatible with assistive technologies, offer multilingual support, and function effectively on mobile devices. It also requires thoughtful consideration of connectivity, with systems optimised for low-bandwidth environments to support students who may lack stable internet access. Generative AI tools are increasingly integrated into platforms, often locked behind premium subscription tiers, and large language models are becoming increasingly integrated into digital platforms, often within premium subscription tiers. Institutions must advocate for affordability and explore models that provide institution-wide access, thereby preventing further stratification between students who can afford it and those who cannot.

In today's rapidly evolving workplace, graduate employability hinges not only on subject expertise but also on digital literacy and AI readiness. Employers increasingly expect graduates to work across platforms, analyse data, and evaluate AI-generated outputs. The World Economic Forum (2023) identifies digital competency, including AI use, among the most essential skills for future workforces. However, Jisc's (2022) Digital Experience Insights Survey found that fewer than half (49%) of students felt their courses prepared them adequately for these demands.

This disconnect represents a widening gap between higher education and industry, and universities must act. A promising approach lies in embedding digital and AI competencies directly into programme design. The European Commission's DigCompEdu (2022) framework provides a structured guide for achieving just that, supporting both staff development and student learning across various disciplines. However, it doesn't fully appreciate the latest developments in generative AI. Crucially, AI fluency must go beyond technical capability. Students need space to develop critical understanding and understand how to question outputs, verify sources, and reflect on the ethical dimensions of machine-generated content. These are not just graduate attributes. They are democratic imperatives.

Closing the digital divide requires action at multiple levels, from institutional investment to curriculum design and policy reform. Below are five actionable priorities for institutions seeking to lead on digital equity:

1. **Invest in Digital Infrastructure** – Provide high-speed campus internet, device loan schemes, and digital learning hubs. Tackling digital poverty must be central to widening participation.

2. **Embed Digital Literacy and AI Fluency Across the Curriculum** – All courses should build digital confidence and critical engagement with AI, including its opportunities and limits.
3. **Upskill Academic Staff** – Staff face similar confidence gaps. Ongoing training enables them to model and support effective digital learning.
4. **Co-design Accessible, Inclusive Platforms** – Co-design intuitive, mobile-friendly platforms that meet diverse learning and access needs.
5. **Foster Peer-to-Peer Digital Mentoring** – Student-led mentoring builds inclusive communities, boosts confidence, and reduces isolation for those navigating new tools.

The digital divide now goes beyond devices. It's about opportunity and access to tools that shape future careers. Without action, AI risks widening gaps in both education and employment. If universities are to uphold their mission of widening participation and creating inclusive learning environments, digital equity must take centre stage in institutional strategy. This means not only recognising digital access as dynamic but also designing for inclusion across platforms, policies, and pedagogies.

This is not just an education issue. It is a social justice issue. And one that demands bold, coordinated, and values-driven action from all of us in higher education.

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A Senior Lecturer at Manchester Metropolitan University, Andrew serves as the Education Lead for the Department of Strategy, Enterprise and Sustainability. He is responsible for shaping and delivering the department's educational vision, aligning it with wider faculty goals, and driving innovation in teaching and learning practice across programmes. Andrew is currently leading two major digital education initiatives. The first is collaborating with Glean.ai to explore how multimodal note-taking technologies can enhance student engagement, cognitive load management, and learning equity, particularly for underrepresented groups. In parallel, he is at the forefront of developing a digital twin Metaverse for Manchester Metropolitan Business School, creating immersive, simulation-based learning environments that foster graduate career readiness. With a strong research and practice focus on digital education, inclusivity, and learning innovation, he is passionate about how educational technology can be harnessed to close the awards gap and create more inclusive, accessible, and effective learning experiences for all students. His goal is to build bridges between pedagogical theory, digital practice, and strategic leadership and place Manchester Met at the forefront of the UK's digital education agenda.