Generative AI, Work and Apprenticeships: Why the Skills System Must Move Faster

Generative AI has moved from curiosity to workplace reality in remarkably little time. What began as a set of experimental tools is now reshaping how knowledge work is performed across sectors, from consulting and law to engineering, marketing and education itself. In many organisations, AI is already being used to draft reports, analyse data, generate code and support decision-making.

The speed of this shift raises a fundamental question for education systems: how do we prepare learners for a labour market that is evolving faster than traditional curriculum cycles?

This challenge is particularly visible in higher and degree apprenticeships. Positioned at the intersection of university education and the workplace, apprenticeships sit unusually close to changes in professional practice. That proximity makes them vulnerable to disruption, but it also gives them a unique opportunity to respond.

Across policy, industry and research, there is growing recognition that AI adoption is not simply a technological shift. It is a workforce transition.

A labour market already changing

Recent analysis of labour market data suggests that the effects of generative AI may already be visible in hiring patterns. Research examining millions of job postings and occupational tasks shows that AI tools are beginning to automate elements of knowledge work previously associated with early-career roles. In some occupations with high exposure to AI systems, demand for entry-level positions appears to be declining relative to more experienced roles.

While the long-term effects remain uncertain, the trajectory is difficult to ignore. The Anthropic labour market analysis describes this as a form of "task compression": activities that once required teams of junior staff can increasingly be completed by smaller groups working alongside AI systems.[1]

For apprenticeship education, this matters enormously.

Many higher and degree apprenticeships have traditionally provided structured pathways into professional careers, allowing learners to develop expertise gradually through workplace experience. If AI reshapes the nature of early-career work, then apprenticeship programmes must evolve accordingly.

Routine analytical tasks may disappear. Judgment, interpretation and contextual decision-making will likely move centre stage far earlier in a career.

Put simply, apprentices may need to develop higher-order capabilities sooner than previous generations did.

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Asking better questions about learning

Debates about generative AI in higher education have so far focused heavily on academic integrity, assessment design and the risk of misuse. These concerns are understandable. Yet concentrating solely on cheating risks missing a deeper transformation.

During a keynote at DigiFest26, Professor of educational technologies at the University of Sydney, Danny Liu, suggested that the sector may be asking the wrong questions about AI. Instead of focusing exclusively on *how* students use these tools, institutions should also ask *what kind of learners we are trying to develop in the first place*.[2]

This perspective invites a broader reflection.

For decades, higher education has prioritised the transmission of knowledge. More recently, attention has shifted towards skills, collaboration, critical thinking and communication.

Generative AI disrupts both assumptions.

Systems can already summarise information, generate explanations and perform certain analytical tasks with remarkable fluency. The challenge for education therefore becomes less about delivering knowledge and more about cultivating judgement: the ability to question, interpret and apply information responsibly.

Apprenticeship education is well placed to support this shift. Because learning is embedded in professional environments, apprentices encounter real problems that require human decision-making and contextual understanding.

Yet this potential advantage will only be realised if apprenticeship curricula evolve alongside workplace practice.

The capability challenge for educators

Preparing apprentices for AI-enabled workplaces begins with practitioners themselves.

Across the sector, educators, assessors and programme leaders are navigating rapid technological change while continuing to deliver high-quality teaching and support. Confidence levels vary widely. Some practitioners are experimenting with AI-assisted learning design, while others remain unsure where to begin.

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Frameworks such as the **EAT Digital principles** provide a useful structure for addressing this challenge. These principles emphasise three interconnected dimensions of digital capability:

• **Ethical digital engagement** - understanding responsible and secure use of digital technologies
• **Adaptive and inclusive digital learning** - designing learning experiences that respond to diverse learner needs
• **Transformative digital education** - using technology to enable new forms of learning rather than simply digitising existing practice.[3]

Crucially, this framework recognises that digital competence is not purely technical. It involves judgement, ethics and professional awareness.

For apprenticeship educators, this matters particularly because apprentices often work in sectors where AI adoption is happening in real time. Practitioners therefore need the confidence to guide discussions about responsible AI use, digital productivity and emerging professional expectations.

A growing number of frameworks are now helping educators navigate this transition. Alongside guidance such as the EAT Digital principles, international initiatives like **UNESCO's AI Competency Framework for Teachers**[4] highlight the importance of developing critical understanding of AI, ethical awareness and responsible use of emerging technologies in education. At a national level, practitioner frameworks such as the **Education and Training Foundation's Digital Teaching Professional Framework (DTPF)**[5] provide structured guidance for developing digital capability across areas including learning design, assessment, collaboration and professional practice. Together, these frameworks underline a simple point: preparing learners for an AI-enabled world requires educators themselves to continuously develop their digital confidence, judgement and professional fluency. Tools such as UVAC's **GenIE**, currently being tested to support practitioner self-assessment and capability development, build on these kinds of frameworks to help educators identifystrengths, gaps and opportunities for growth in a rapidly evolving digital landscape.

Avoiding a new digital divide

Equity is another issue that cannot be ignored.

Generative AI promises productivity gains across many professions. Yet access to technology, and the confidence to use it effectively, remains uneven. Without careful intervention, there is a risk that AI could widen existing inequalities in education and employment.

Apprenticeships often serve learners balancing work, study and family commitments. Many are first-generation university students or individuals seeking career progression through vocational pathways. For these learners, digital capability can become either a powerful enabler or an unexpected barrier.

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Ensuring inclusive access to digital learning therefore needs to become a deliberate part of apprenticeship pedagogy.

Lifelong learning in an AI economy

The scale of technological change also reinforces the importance of lifelong learning.

The UK's **Post-16 Education and Skills White Paper** recognises that workers will need opportunities to retrain and update their skills throughout their careers. One of its central proposals, the **Lifelong Learning Entitlement (LLE)**, aims to make flexible study available across a working life, allowing individuals to access modular higher-level education when needed.[6]

In an AI-driven economy, this approach becomes even more relevant.

Digital capability cannot be treated as a one-time acquisition achieved during a single degree or apprenticeship. Instead, it must evolve alongside technological change.

For institutions delivering apprenticeships, this means supporting not only apprentices but also educators and workplace mentors in continuous professional development.

A system that learns alongside the workforce

Generative AI will undoubtedly continue to reshape work in ways that are difficult to predict. What seems certain, however, is that the pace of change will remain high.

Education systems therefore face a difficult but necessary adjustment: learning models must become more adaptive, more responsive and more closely connected to professional practice.

In many ways, apprenticeships are well suited to this challenge. Their direct relationship with employers offers a clear view of emerging workplace skills. Their flexible structure allows curricula to evolve more quickly than many traditional academic programmes.

The opportunity now is to build systems that learn alongside the workforce they serve.

Generative AI may transform how work is done. Apprenticeships will play a critical role in shaping who is ready to do it.

The question is no longer whether education must respond to AI disruption. It is whether we can respond quickly enough.

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