UNITED KINGDOM

Report on methods for holistic literacy and emerging technologies (ET) in Adult Learning and Education (ALE)

Emerging Technologies for Holistic Literacy in Adult Education

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Desk research findings

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Policy Frameworks

The United Kingdom has taken a multi-faceted approach to digital inclusion and the adoption of emerging technologies (ET), particularly artificial intelligence (AI), in education. Recent initiatives focus on equipping both learners and educators with tools, training, and access to technologies that support inclusive, flexible, and personalised learning across all levels, including adult education.

Key policy documents such as the **Digital Inclusion Action Plan: First Steps** (UK Government, 2025) and the **DfE Policy Paper on Generative AI in Education** (2025) underline the UK's strategic focus on enhancing digital access and skills. The UK Government plans to launch a **Digital Inclusion Innovation Fund**, supporting community-led initiatives, including a pilot scheme with the **Digital Poverty Alliance** that provides repurposed laptops to those in need.

The **Department for Education** (DfE) recognises the potential of generative AI tools like ChatGPT and Microsoft Copilot in providing tailored learning experiences and easing teacher workloads. Updated guidelines stress ethical implementation, data protection, intellectual property, and the need for educator training.

Obstacles and Enablers

The **Adult Participation in Learning Survey** 2024 (L&W) reveals that 95% of adult learners use technology in learning, with increasing adoption of AI (18% in 2024 vs. 14% in 2023). Benefits include convenience, engagement, and confidence-building. However, obstacles such as digital poverty, affecting 13–19 million people aged 16+, persist due to socioeconomic inequalities, limited digital infrastructure, and lack of access to learning opportunities.

Motivational challenges also hinder adult learning, especially among individuals with past negative educational experiences. Emerging technologies, such as generative AI, virtual reality (VR), augmented reality (AR), and gamification, offer opportunities for more engaging and personalised learning, potentially overcoming these barriers. Still, implementation is hampered by limited funding and the cost of technological upgrades. Open-access tools like OpenAI offer some relief by enabling educators to automate administrative tasks.

Teacher perceptions of AI are mixed. According to the **National Literacy Trust**, AI adoption among teachers rose to nearly 48% in 2024, yet 38% remain concerned about learners' use of AI. While AI is viewed as potentially beneficial, significant concerns include data privacy, educational validity, bias, and its effect on core skills. Stakeholders, including the UK Parliament and British Council, advocate for more evidence, training, and clearer legal frameworks to support responsible AI use.

Existing Programmes and best practices

Several innovative programmes demonstrate the UK's leadership in integrating ET into adult education.

- Citizen Literacy App uses voice-driven AI, handwriting recognition, and gamified features to support low-literacy learners across diverse contexts, including ESOL and dyslexia support.
- Learn English Now (Klik2learn) offers a multimedia-based, gamified platform with personalised learning paths for English proficiency.
- Readable provides AI-powered, graded news and stories with real-time translations, audio, and text simplification.
- Audactive (Pembrokeshire College) transforms static content into interactive, voice-controlled learning materials, enhancing flexibility and engagement.

The UK's approach to digital inclusion in adult education reflects a balance between innovation and caution. While emerging technologies provide opportunities to enhance learning access and quality, their responsible integration requires sustained investment, inclusive policies, and robust ethical guidance.

Sources and practices

- Digital Inclusion Action Plan
- DfE Generative AI in Education
- Digital Poverty Alliance
- Adult Participation in Learning Survey
- National Literacy Trust Reports
- British Council on AI and ELT
- Citizen Literacy
- Learn English Now (Klik2learn)
- Readable
- Audactive

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Interview findings and perspectives from stakeholders

Emerging technologies integration in adult learning

In the United Kingdom, the use of emerging technologies (ET) in adult education is being shaped by a complex interplay of innovation, inclusivity goals, and systemic constraints. The participants interviewed for this study, including an education technology expert, an adult educator, and a representative from an education-focused NGO, collectively represent the interface between digital innovation and adult learning provision. Their experiences reflect a maturing but cautious ecosystem, one that is increasingly aware of both the potential and the limitations of ET in educational contexts.

All participants reported familiarity with key emerging technologies such as artificial intelligence (AI), virtual and augmented reality (VR/AR), and gamified learning tools. These technologies are already embedded, to varying degrees, in their educational practices. For example, AI is used in adult language education, where tools assess freeform text and spoken responses, providing personalised feedback on grammar, tone, pronunciation, and structure. One interviewee explained that “AI chatbots are used to scaffold learning by rephrasing questions and offering hints,” providing an adaptive learning environment that caters to individual learners' progress and needs.

Similarly, VR and AR technologies are used to simulate real-world environments that would otherwise be inaccessible. In vocational education, VR enables learners to participate in high-risk simulations, such as job interviews or medical appointments, without real-world consequences. Facial mapping and behavioural feedback tools are then used to help learners build soft skills, such as confidence and communication. This is especially effective for ESOL learners and neurodiverse individuals. As one participant described, “We place ESOL learners in work-based simulations... and use facial mapping to analyse expressions during speaking tasks.” These innovations make learning more engaging and accessible for those who traditionally face barriers in education.

Gamification is another central strategy used across adult learning. Through web-based applications that mimic native apps, learners engage with quizzes, games, and reward systems that increase motivation and reduce cognitive and emotional barriers. One participant emphasised the importance of this approach for inclusivity: “It brings a comfort for the learners... ‘Oh, it’s a game. I know how to do a game.’ But they’re learning at the same time.” Notably, one of the success factors in this space has been the use of “frugal innovation” - employing established, open technologies (e.g., JavaScript) to ensure full control over code, low maintenance costs, and improved accessibility.

The UK’s implementation of ET is heavily oriented towards inclusion and flexibility. Adult learners targeted by these technologies include individuals with low literacy, ESOL learners, and those from socio-economically disadvantaged backgrounds.

Technologies are selected based on their ability to accommodate diverse needs and learning contexts, with special attention paid to mobile compatibility, ease of use, and the capacity to function in low-resource environments. Accessibility, both technical and cultural, is a key priority, with many tools designed to circumvent the digital exclusion that affects large portions of the adult learner population.

The observed benefits of ET in these contexts are considerable. Participants reported improved learner engagement, higher retention rates, better personalisation of content, and enhanced learner autonomy. Technologies like AI enable efficient feedback loops, while immersive environments make abstract or inaccessible content tangible. Crucially, the ability to learn flexibly (on mobile devices, at irregular hours, and at a self-determined pace) has significantly expanded educational access for adults with caring responsibilities, shift work, or other structural constraints. One interviewee concluded: “Technology gives them that opportunity to take half an hour at lunchtime, or an hour when the kids have gone to bed, to engage in learning.”

Overall, the UK landscape reveals a nuanced and practical approach to ET in adult education: one grounded in accessibility, personalisation, and equity. While challenges remain (explored further in Task 2.2), these interviews suggest a strong foundation of experience and commitment among providers to integrating emerging technologies in a meaningful and learner-centred way.

Holistic literacy programmes and emerging technologies

The UK field research for Task 2.2 presents a rich picture of how adult education providers are addressing holistic literacy in their programmes, particularly in work with learners from vulnerable contexts. Interviews with experienced adult educators and education technologists reveal a practice landscape where emerging technologies are being adopted not as an end in themselves, but as tools to foster agency, engagement, and inclusivity among adult learners with complex life situations.

A defining feature of the UK approach is the integration of emotional and ethical dimensions into digital pedagogy. Adult learners served by these programs often face multiple disadvantages: low literacy levels, migration-related stress, caregiving responsibilities, or socio-economic precarity. As one educator explained, “We work with learners who arrive with very low confidence. They’ve failed in education before, or they’ve been failed by the system.” In this context, technology is valuable not just for delivering content but for helping learners rebuild self-trust and emotional resilience.

Practitioners place strong emphasis on reducing learner anxiety, particularly through tools that are intuitive, mobile-friendly, and emotionally safe. Gamification, for example, is used not only to motivate but to reassure: “When something looks like a game, there’s less fear. They’re not going to be judged or tested; they’re just going to have a go.” This psychological safety is essential for learners who may otherwise disengage at the first sign of difficulty.

The use of AI and adaptive learning systems was noted as particularly effective in supporting differentiated learning pathways, enabling each learner to progress at their own pace and according to their own needs. For instance, AI-enabled language tools provide real-time, non-judgmental feedback to ESOL learners, allowing them to experiment and improve without fear of embarrassment. These tools also help identify when learners may be stuck and offer tailored hints or questions to keep them moving forward. This kind of personalisation aligns well with the ethical dimension, supporting learner autonomy while preserving dignity.

Importantly, educators interviewed in the UK are acutely aware that not all learners arrive with equal levels of digital access or familiarity. While smartphone ownership is high, digital literacy is uneven. Some learners are adept with apps but struggle with basic tasks like logging into a platform or interpreting written instructions. This has led to a pedagogy of “scaffolding from what they know”—starting with familiar tools such as WhatsApp or voice notes and gradually introducing more structured platforms as learners build confidence. As one educator put it, “We meet them where they’re at. If that’s WhatsApp, that’s where we begin.”

The emotional component of adult education was also a recurring theme. Many learners are juggling family, employment, or legal challenges alongside their studies. Flexibility, empathy, and persistence are essential to sustain engagement. Educators emphasised the importance of trust and continuity in building relationships, especially when learning moves into digital spaces. “They need to know we’re still there,” one educator said, describing how regular check-ins via phone or text serve as emotional anchors for learners navigating online environments.

In terms of challenges, institutional constraints remain. Funding cycles are short, and there is limited support for ongoing staff training in digital pedagogy. While the appetite for innovation exists, practitioners are often left to “hack the system” using free or open-source tools and peer-shared activities. This can lead to inconsistency across institutions and geographic regions. Furthermore, some learners remain reluctant to engage online, due to past experiences of surveillance, language barriers, or simply a preference for in-person interaction. One practitioner reflected, “We can’t assume that just because a tool works well for one learner, it’ll work for everyone. That’s where the human element comes in.”

Nevertheless, the research highlights many instances where emerging technologies have deepened rather than diluted the learning experience. For example, AI speech analysis has helped learners monitor their own progress and develop metacognitive awareness. Digital storytelling projects have enabled learners to reflect on their personal journeys, building both literacy and self-expression. In each case, technology was embedded in a wider pedagogy of care, grounded in responsiveness, relationality, and respect for learner agency.

The UK case study illustrates how holistic literacy in adult education is not simply about acquiring skills and how using technology can support human development in its fullest sense. The most successful practices are those that honour learners’ emotional realities, recognise their diverse literacy levels, and position them not as passive recipients but as active participants in their own learning journeys. Emerging technologies, when used critically and compassionately, can play a transformative role in this process.

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