

AI, Assistive Technology and SEND: From Innovation to Inclusive Infrastructure

A governance agenda for access, agency and safe implementation

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EXECUTIVE ABSTRACT

Artificial intelligence and assistive technology can widen communication, personalise access and reduce administrative friction. They can also amplify bias, surveillance and unequal provision. This paper proposes a rights-based implementation model in which technology supplements professional relationships, preserves learner agency and is evaluated against meaningful participation.

The opportunity is practical, not futuristic

For learners with SEND, useful technology is often quiet and immediate: text-to-speech, symbol-supported instruction, switch access, eye gaze, captioning, predictive language, visual scheduling or tools that reduce cognitive load. AI can make some of these systems more responsive and help practitioners adapt materials efficiently.

The Department for Education's assistive-technology pilot and its commitment to prepare new teachers to use assistive technology indicate welcome movement from isolated equipment purchases towards classroom capability. The policy challenge is to make effective use routine rather than dependent on a postcode, an individual enthusiast or a family able to advocate persistently.

Innovation without access reproduces inequality

A device is not provision. Effective access requires assessment, configuration, training, maintenance, connectivity, technical support and regular review. A learner may technically possess an AAC device yet be unable to use it because vocabulary is unsuitable, staff are untrained or the system is unavailable outside lessons.

Procurement decisions should calculate the full pathway from assessment to sustained use. Schools and local partners should track not only devices distributed but active use, learner satisfaction, communication opportunities and participation outcomes. The digital divide includes support and design, not only hardware.

The risks are heightened for vulnerable learners

AI systems may infer ability from atypical speech, movement, behaviour or writing and produce unreliable conclusions. Data used to personalise support can reveal health, disability and family information. Automated monitoring may become intrusive, while generated content can contain inaccessible language or culturally biased assumptions.

No high-impact decision about identification, placement, discipline or entitlement should be delegated to an opaque model. Human accountability must remain visible. Children and families should know when AI is used, what data it processes, how outputs are checked and how to challenge an error.

Agency must be the design principle

Technology should expand the ways a learner can express preference, refuse, ask, create and participate. It should not force conformity or reward only easily measurable behaviour. Co-design with disabled learners and families is therefore essential, including with people who communicate without speech.

A rights-based evaluation asks different questions: Does the tool increase control? Does it work across settings? Can the learner use it when distressed or tired? Does it preserve privacy? Does it reduce dependence on one trained adult? These questions are more meaningful than novelty or short-term engagement.

A five-part institutional standard

Every education organisation adopting AI or assistive technology for SEND should establish five controls: individual access assessment; accessibility and bias testing; explicit data governance; workforce training and named human accountability; and continuous evaluation with learner and family voice.

The ambition should be inclusive infrastructure, not occasional innovation. Technology succeeds when it becomes a dependable extension of communication and participation - supported by skilled people, ethical governance and the presumption that every learner has something important to say.

REFERENCES AND FURTHER READING

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AUTHOR NOTE

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