EDUCATION

A guide to artificial intelligence (AI) in schools and trusts

Using the latest technology to improve SEND intervention

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You can't miss the excitement around artificial intelligence (AI) at the moment.

But new possibilities bring important questions, especially if you are a school or a trust searching for ways to improve SEND provision.

Firstly, with so much commotion, where do you begin?

Secondly, will an AI 'solution' live up to its hype or waste your precious time and money?

What's in this guide?

Throughout this guide we will look at:

- Why AI is suddenly so popular
- How teachers and students have reacted to AI's new popularity
- The ethical questions AI brings
- How AI can be used in lessons
- The role of AI in SEND provision, through:
    - Assessment and progress checking
    - Personalised learning
    - Resource allocation
    - Assistive technology
    - Behavioural analysis

...and more

We couldn't have written this guide without insights from:

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When you have read this guide, don't forget to check out the on-demand webinar: **Sharper tools, stronger support: how AI is transforming SEND provision in schools**

PART ONE

Why AI is popular now

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AI has been around for a long time. In fact, Alan Turing's famous test, to see if computer intelligence is indistinguishable from a human's, was devised back in 1950. The phrase 'Artificial Intelligence' was coined soon afterwards, in 1956; then, just two years later, we had our first public demonstration of a 'neural network', a set of processes inspired by the human mind.

AI went on to develop fairly consistently since. AI technology and methods fall under categories ranging from Machine Learning (which learns from data and spots patterns) to computer vision (which can identify imagery and real-world objects)

So why does it feel like AI has such momentum now?

San Francisco-based OpenAI launched ChatGPT on 30 November 2022.

This 'Large Language Model' (LLM) used near unfathomable amounts of text data to feed its algorithms. Within two months, 100 million new users had signed up.

For perspective, Instagram took two-and-a-half years to enjoy this level of success.

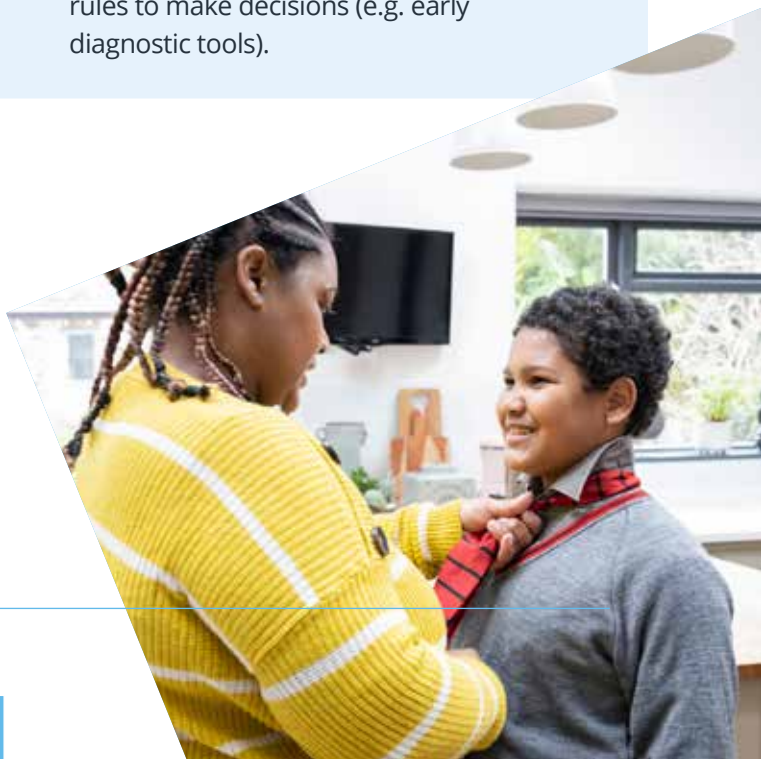
But why all the excitement? It's because ChatGPT allowed people to get fairly impressive results with text and code in seconds (and for free).

It's easy to forget that, back then, this felt like magic.

AI's educational appeal was something people discovered very quickly using ChatGPT. One popular prompt in those early days was "Explain [subject x,y or z] to me like I'm a five-year-old". That it could do so succinctly set it apart from the likes of search engines (like Google's back then) or Wikipedia.

Types of AI by method

- **Machine learning** – Teaches machines to learn from data (e.g. Netflix suggestions, fraud detection).
- **Deep learning** – A powerful type of ML using brain-like layers to handle complex tasks (e.g. ChatGPT, self-driving cars).
- **Natural language processing (NLP)** – Helps machines understand and generate human language (e.g. chatbots, translation).
- **Computer vision** – Enables machines to interpret images and video (e.g. face recognition, object detection).
- **Robotics** – Combines AI with machines to interact with the real world (e.g. warehouse robots, drones).
- **Expert systems** – Uses human-coded rules to make decisions (e.g. early diagnostic tools).



Confidence in AI among staff and pupils

There is some excitement and apprehension in the education sector around AI.

For example, the UK Government says 43% of teachers rate their AI confidence at 3/10, with over 60% seeking help for planning and support tasks. Nearly all requested safety guidance and additional training.

A lot of teachers have not yet **had *any* formal training** using AI (42%).

If you're looking to seize this opportunity, what can good training look like? Think tailored professional development programs, workshops, and peer collaboration. The more structured the setting and programme, the more opportunity you have to engage time-poor staff. Formal training will also fill in any gaps for anyone who thinks they understand the subject but still has something to learn.

Confidence and the ethics of AI

Healthy scepticism is important: we do need to look before we leap each time we consider an AI solution.

First, unlike conventional software, nobody can look inside a complex generative AI application like ChatGPT and see how it arrived at a conclusion. This is just as true for the creators as it is for the end users. This is commonly known as the 'black box' problem.

In fact, ask an app like ChatGPT the same question twice and you will often get two differently worded answers.

Sometimes, those answers aren't right. LLMs can 'hallucinate' an answer that is incorrect, misleading or made up. While this is remedied by common sense and checks, it does mean it's hard to rely on generative AI for everything without some vigilance.

AI solutions and contractual fine print

There has been something of an AI software boom in the last few years, with eager startups selling products that gain a huge following very quickly.

Meanwhile, longstanding businesses like Microsoft are changing their offering to incorporate LLM-style technology.

In both cases, there have been public (**sometimes legal**) disputes about if developers infringed on business or individual rights.

Furthermore, how a solution's developers handle your data is another question (for example **here**).

Sometimes what you input, which can include sensitive documents, can be used to train the next iteration of an application. This could mean you breach laws and regulations like GDPR. It's always important to check terms and conditions, as well as software settings. Even then, data can be held by a developer for a set time if necessary.

Pupils and AI

Internationally, **70% of teens** age 13 to 18 have used at least one generative AI tool, like ChatGPT.

Whether they are using them to create text summaries, or getting creative, it seems they are comfortable and curious about the technology. Nearly half (46%) have used it for their work without asking permission from a teacher.

Like their teachers, many will be using it without proper training. This can mean they become overdependent on it, or they might trust inaccurate information.

From prompting to fact-checking, schools have a role in promoting the technical and practical

2

PART TWO

Personalised teaching and AI

What does an AI-assisted world look like for schools?

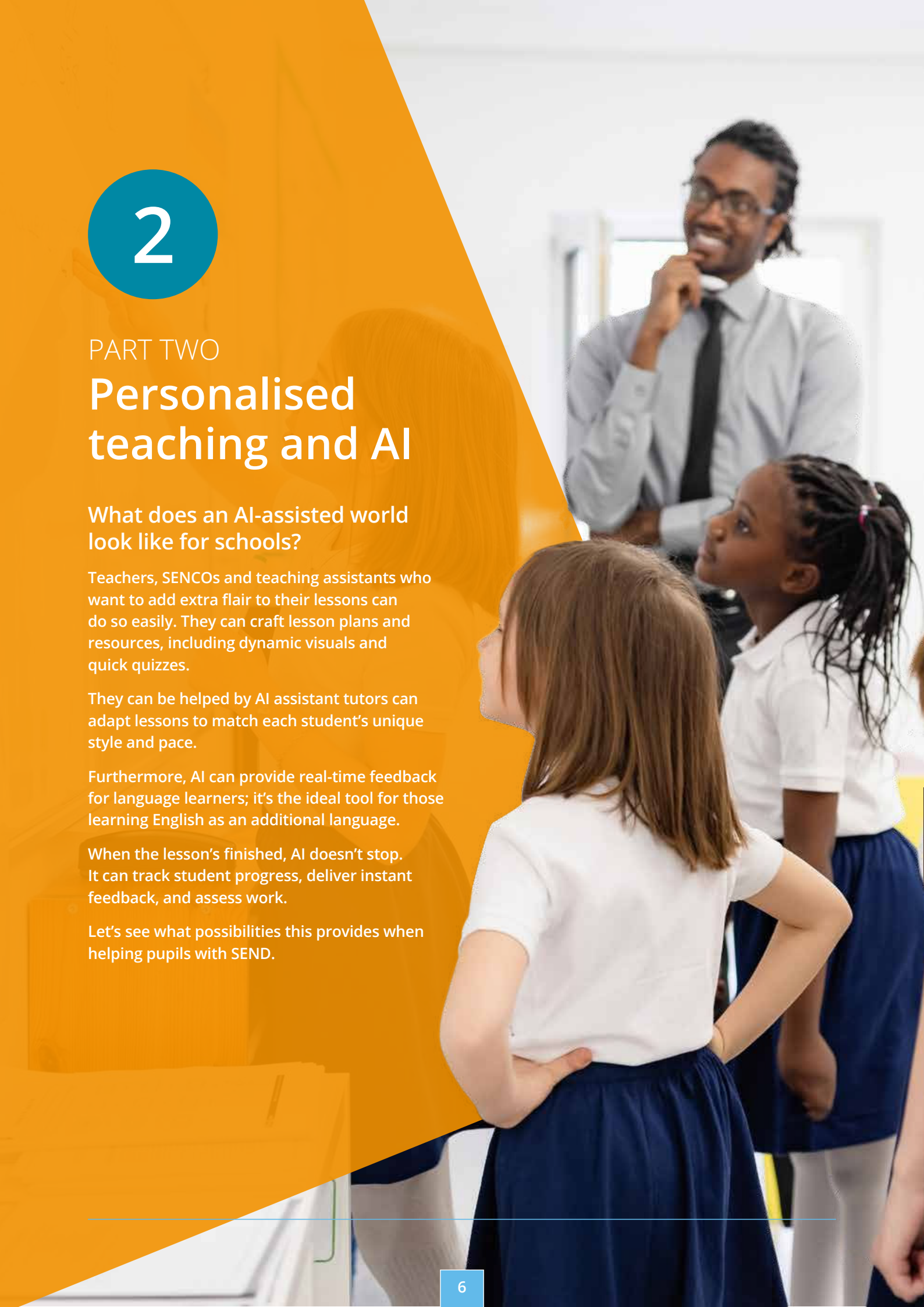
Teachers, SENCOs and teaching assistants who want to add extra flair to their lessons can do so easily. They can craft lesson plans and resources, including dynamic visuals and quick quizzes.

They can be helped by AI assistant tutors can adapt lessons to match each student's unique style and pace.

Furthermore, AI can provide real-time feedback for language learners; it's the ideal tool for those learning English as an additional language.

When the lesson's finished, AI doesn't stop. It can track student progress, deliver instant feedback, and assess work.

Let's see what possibilities this provides when helping pupils with SEND.



The role of AI in SEND provision

AI serves as a powerful tool to identify, assess, and support the diverse needs of learners. Here are several key areas where this technology is currently making a difference:

Assessment and progress tracking

We briefly mentioned assessment and feedback in the last section. When it comes to helping pupils with SEND, this functionality comes into its own.

Gone are the days of waiting for experts to asses your pupil. Now, while they await formal diagnosis, specialised tools can test a young person for traits of conditions such as ADHD and autism. These assessments are more nuanced and comprehensive, going beyond traditional in-school testing methods.

Personalised learning

From an assessment you can develop a plan that understands individual learning patterns and preferences. Because AI helps you adapt, you can quickly factor in Education, Health and Care Plans (EHCPs) when they are completed by the local authority.

AI can *continuously* monitor student progress, adjusting learning plans as necessary to ensure sustained support.

Resource allocation

AI helps educators efficiently allocate resources by identifying the most urgent needs within a classroom or school. This is particularly beneficial in environments with limited resources, ensuring that support is directed where it is most needed.

Assistive technology

AI-powered assistive technologies, such as speech-to-text, text-to-speech, and language translation tools, offer significant support to SEND learners. These technologies routinely help overcome barriers to communication and comprehension.

Behavioural analysis

AI can analyse behavioural patterns to identify triggers and predict challenges that SEND students might face. This allows teachers and support staff to create environments that minimise disruptions and promote positive behaviours.

AI in action: how PAGS delivers SEND Support

PAGS

PAGs (Profile Assessment and Goal Setting) uses AI to revolutionise how SEND provision is managed and delivered in UK trusts and schools.

What is PAGS?

Before we look in more detail at how PAGS uses AI, let's take a quick look at how this solution helps SENCOS and teaching staff.

PAGS is a web-based platform that supports educators, parents, and professionals working with SEND learners aged 5-25. It provides a framework for tracking development, setting personalised goals, and implementing tailored strategies.

It simplifies interventions, planning, and assessments, and it caters to various educational settings, including primary, secondary, and higher education institutions, as well as specialist schools and therapy environments.

One of the big challenges in SEND provision is the administrative burden on educators. PAGS addresses this by using AI to automate various administrative tasks. This includes generating reports, summarising qualitative data, and identifying key areas for intervention. Because PAGS reduces time spent on paperwork, educators can focus more on direct student support.

Intervening to help pupils before, during, and after EHCP applications

PAGS

The PAGS platform begins the intervention process with assessments covering Communication, Social Interaction, Self-regulation, and Cognition and Learning. These assessments generate a personalised profile for each learner, highlighting strengths and where they need support. Based on this profile, PAGS provides targeted, tailored goals.

The AI factor:

SENCOs want to give each pupil their undivided attention when trying to understand their needs; unfortunately, school life often makes this difficult. PAGS uses AI to provide an individualised assessment for each student every time, easing the burden on SENCOS and support staff during busy periods. This is especially helpful if a lot of pupils need help at once – one example of this is when a new cohort arrives at a school. Think of AI in this case as a fresh pair of eyes that never get tired.

Plan in place, PAGS then tracks development over time, displaying progress through graphs and reports. This data helps make informed decisions about the learner's journey and supports assessments like EHCPs and inspections by bodies such as OFSTED.

The AI factor:

The system monitors how students perform against their individualised goals and adjusts plans as necessary. This dynamic approach ensures that the support provided remains relevant, consistent and effective.

Designed to integrate into classroom teaching, PAGS is teacher-led, providing systems for educators to adapt their approaches. The platform saves teachers time by offering ready-made resources and strategies, promoting collaboration between teachers and parents.

The AI factor:

AI in PAGS can scan through individual targets and align them with lesson plans, offering tailored tasks that address specific learning goals.

For school leaders, PAGS offers insights and reports that aid in decision-making at an institutional level. This helps allocate resources more effectively, monitor the progress of SEND learners, and ensure compliance with national standards.

The AI factor:

PAGS puts consistency first when it comes to data analysis and reporting. The AI algorithms are designed to provide reliable outputs by using structured data. This consistency is crucial in maintaining trust in the AI system and ensuring that the insights generated are actionable.

Discover more

Try PAGS for yourself, and see how it can help SEND pupils succeed.

Click here

About IRIS Education

IRIS Education has had a presence in the sector for 30 years. We currently provide HR, MIS, finance and training software solutions to educators in more than 90 countries.

In the UK, 75% of MATs and 12,000 UK schools and academies – including half of the schools in England – now use our solutions.

We aim to empower teachers and enable back-office staff to have the best possible impact. Our applications also provide an essential connection between families and schools.

All our outcome-focused solutions focus on four pillars: reducing administration, providing better data, ease of use and accessibility.

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