AI in Education

Impact report 2023-24

AI in Education

AI-in-Education.co.uk

What is AI-in-Education?

Overview

AI-in-Education is a cross-sector initiative instigated by Bourne Education Trust (BET), a multi-academy trust, and Epsom College. It brings together senior and experienced figures who have worked in both the UK state and independent sectors. It was conceived by Anthony Seldon[1], after years advocating AI needed to be taken more seriously in education, and Alex Russell, long time senior leader in state education.

We are positioned as the premier destination for contemporary insights and information on Artificial Intelligence (AI) in education. We are best placed to create the meaningful and achievable way forward that the education sector badly needs. We cannot look elsewhere for leadership: we are the body to provide it.

Our mission

To harness the power of AI to maximise the benefits for all stakeholders in education, ranging from pupils and teachers to support staff, parents, governors and the wider community (e.g. regulators, quality assurance agencies, Department for Education (DfE)). We are committed to ensuring that AI enhances human intelligence and experiences, with a special focus on benefiting the most vulnerable, including those with limited resources, additional learning needs and those that face barriers to obtaining a high-quality educational experience.

AI in Education

[1] The Fourth Education Revolution: Will Artificial Intelligence liberate or infantilise humanity? By A. Seldon

Vision

- To offer impartial, expert and judicious advice on services and products coming on to the market in the UK and internationally by offering leading edge thinking and advice on education applications, AI technology and learning data analytics
- To level up education in the UK for the first time in history and to address Britain's chronically poor social mobility
- To provide clarity over the fraught ethical and moral dimensions of AI, providing reassurance to parents, governors and staff on the best way to optimise the benefits of AI and mitigate the downsides
- To help prepare our young people better for employment and society in a world of AI
- To enable the UK to become a global leader and centre of excellence in using AI to transform the educational experience

AI in Education

Why is AI in Education needed?

Schools must change.

- One in five children no longer attend school regularly; we need to engage with them differently
- Much of the traditional learning experienced in our schools is no longer relevant to life in the twenty first century
- Performance gaps between different groups of pupils stubbornly remain and, indeed, are getting wider despite the additional funding for them over the last decade
- More and more children with complex needs are attending mainstream educational settings where their needs are not being adequately met
- The UK teacher recruitment crisis means that children are increasingly taught by non-specialists who need to be better equipped to meet this challenge
- The current focus on exams fails to identify, channel and reward all pupils

AI in Education

Governance and leadership

AI in Education is currently led by Sir Anthony Seldon and Alex Russell, OBE (Co-Chairs). They are supported by a steering group comprising of Richard Alton, Karen Barham, Richard Beeson, Chris Goodall, Robert Isaac and Julie Kapsalis. The steering group is supported by seven panels: Strategy, Pupils, Advisory, Practitioners, Examiners, Political Advisors and International.

SIR ANTHONY SELDON

Anthony has been head of three schools, Brighton College, Wellington College and Epsom College. He was the vice chancellor of the University of Buckingham. His book 'The Fourth Education Revolution: Will AI diminish or liberate humanity?' was published six years ago. He is the historian of Downing Street and the British Prime Minister.

ALEX RUSSELL, OBE

Alex is CEO of Bourne Education Trust which comprises 26 schools across primary, secondary and special phases in the south-east of England. He leads Surrey's Equality, Diversity and Inclusion strategy. In September 2023 he launched AI in Education in partnership with Epsom College. He was previously the headteacher of three secondary schools and awarded an OBE for services to education in 2022.

RICHARD ALTON

Richard is the co-chair of the practitioners' panel for the national AI in Education initiative and serves as head of digital education for Epsom College, having previously been its deputy head (academic). He has been in education for 25 years and been deputy head of two schools. Richard is particularly interested in effectively utilising edtech and AI in the education of young people and business intelligence to provide an efficient and data-rich environment to do so.

KAREN BARHAM

Karen graduated from King's College and is now an experienced senior leader in secondary education. During her ten years working with BET her focus has been on driving curriculum improvement, staff development and outcomes. Following leading a Trust technology think-tank, she now co-chairs the pupil panel for AI in Education, collaborating closely with pupils from primary, secondary and specialist schools to gain insight into how AI impacts pupils' education.

RICHARD BEESON

Richard is a former headteacher and now the manager at AI in Education and the digital education & AI lead at The Howard Partnership Trust, a multi academy trust of 13 schools. Richard is a former member of the Teams Around the School and Locality Pilot Project steering groups at Surrey County Council, representing secondary schools in Surrey.

CHRIS GOODALL

Chris is the co-chair of the practitioners' panel for the national AI in Education initiative and serves as head of digital education for Bourne Education Trust. Chris is a pioneering leader in the integration of AI and digital technologies in education. His career spans roles in IT consultancy and strategic advisory, including as IT strategy advisor for Surrey County Council and head of Surrey Online School. He is also a certified Prince 2 project manager.

ROB ISAAC

43 years' experience in education, with much of that in senior leadership positions. Strong project management skills developed through the setting up of four large secondary schools. Awarded Apple Distinguished Educator status and the successful completion of numerous Microsoft accreditations. These skills enable him to lead at school and Trust level on using technology to enhance teaching and learning, developing improved workflow and optimising data capture and analysis.

JULIE KAPSALIS

Julie is principal & CEO at NESCOT Surrey where she recently opened an Institute of Technology focusing on training in cyber security, robotics and AI. She has worked in economic development for 20 years with a focus on enterprise, skills & social inclusion. She served as chair of the Coast to Capital Local Enterprise Partnership, as advisor to the UK Government's task force on women's enterprise & contributed to the Rose Review of Female Entrepreneurship.

Review of the year 2023–24

Context

In the lead-up to September 2023, the Department for Education had not yet released comprehensive guidelines specifically addressing AI in schools. This lack of clear national policy left many schools uncertain about how to approach AI integration. There was a wide range of awareness levels among school leaders, teachers and governing bodies about AI and its potential impact on education but little direct action. There was a significant gap in teacher training regarding AI. Most educators had not received formal training on AI technologies, their potential applications in education, or how to use them effectively in the classroom. Schools were generally unprepared for the new safeguarding challenges posed by AI, such as the potential for AI-generated misinformation or the use of AI in cyberbullying.

AI in Education

The National Curriculum had not been substantially updated to include AI-specific content. This meant that schools lacked clear direction on how to incorporate AI into subject areas. There was limited guidance on the ethical use of AI in education, including issues like data privacy, algorithmic bias and the appropriate use of AI-generated content.

While digital literacy had been a focus in UK education for years, specific AI literacy was not widely addressed in most schools. Many schools faced challenges with digital infrastructure. Many schools faced, and continue to face, budget constraints, making it difficult to invest in AI technologies or related training programs. While some schools had robust IT systems, others struggled with outdated hardware, limited internet connectivity or insufficient devices for pupils.

Some schools and local authorities had initiated pilot programs or trials with AI technologies, but these were not widespread across the school system. As of September 2023, our schools were largely underprepared for the introduction of AI. It was into this vacuum that AI in Education entered to help all schools navigate this landscape.

AI in Education

Outline of year 1 targets

Our initial targets were relatively straightforward and we quickly outgrew them in terms of scale and ambition. They were:

- To establish ourselves as an entity with national publicity & agree our mission statement/vision
- To launch our website and establish key panels to guide the work of the organisation
- To conduct studies and analysis to build an evidence base regarding AI in education
- To develop concrete materials and guidance for utilising AI in schools
- To provide direction on key issues related to effectively leveraging AI
- To build engagement through outreach, discussion, and sharing
- To establish partnerships with key stakeholders in education.

Progress against year 1 targets

Infrastructure

We launched AI in Education in the national press on Saturday 23rd May 2023 and on national radio with an agreed mission statement and vision (see above). Our website followed in late September 2023. It now contains 179 case studies and numerous opinion pieces and research references.

AI in Education

The composition of our advisory panels gives us unique reach into the complete cross-section of schools and colleges; state and independent, primary, secondary and special. We have brought together politicians, examination boards and industry experts with educators and pupils to provide guidance and insight on how AI can transform education.

Strategic partnerships

Our partnerships span various stakeholders, demonstrating our commitment to a comprehensive and inclusive approach. Each partnership supports our mission to integrate AI effectively and ethically within the UK education system.

Department for Education (DfE)

- Collaboration: Actively contributing to the DfE's call for evidence on AI in education, shaping future policy and implementation strategies
- Significance: Directly influencing national-level discussions and decision-making processes regarding AI's role in education

FacultyAI and ImpactEd

- Collaboration: Partnering on a DfE-funded project to develop an 'AI Education Store' – a central repository of machine-readable educational resources accessible to AI systems. This includes anonymised pupil work showcasing effective AI utilisation
- Significance: Creating a vital resource for educators, researchers and EdTech developers, fostering innovation and best practices in AI-powered learning

AI in Education

Fiona Aubrey-Smith & Educate Ventures

- Collaboration: Participating in a research project with 26 multi-academy trusts (MATs) exploring the challenges and opportunities presented by AI for school leaders. The findings of this research will be presented to the House of Lords on 18th September
- Significance: Leading the conversation on AI's systemic impact, empowering school leaders to make informed decisions and harness AI's potential. This work is gaining national recognition and informing policy at the highest levels

Citizenship Project (Urban Big Data Centre & Centre for Technomoral Futures)

- Collaboration: Developing curriculum materials and engaging stakeholders in discussions about 'digital citizenship' and 'data justice' in the age of AI
- Significance: Equipping young people with the critical thinking skills and ethical frameworks necessary to navigate an increasingly AI-driven world

Edinburgh Napier University

- Collaboration: Supporting research investigating pupil experiences and attitudes towards AI tools like ChatGPT in UK universities

AI in Education

- Significance: Generating valuable insights into the practical realities of AI adoption in higher education, informing effective implementation strategies

The Open University

- Collaboration: Leveraging the OU's open educational resources on AI and collaborating on projects to democratise AI education for all
- Significance: Expanding access to high-quality AI education resources and promoting inclusivity within the AI education landscape

Century Tech

- Collaboration: Co-authoring a practical guide for school leaders on implementing AI, focusing on real-world applications and best practices
- Significance: Bridging the gap between theory and practice, providing tangible guidance for schools seeking to integrate AI effectively

Xavier Teach South East

- Collaboration: Delivering training for trainee teachers on AI in education and consulting with Xavier to embed AI into their teacher training programmes
- Significance: Equipping future educators with the knowledge and skills to confidently navigate and utilise AI in their classrooms

AI in Education

UA92

- Collaboration: Exploring the development of a ‘Junior Degree’ focused on business and sport, with potential integration of AI education
- Significance: Collaborating with a forward-thinking institution to shape the future of education and equip pupils with relevant AI skills

Education Endowment Foundation (EEF)

- Collaboration: Joining the Study Advisory Board for a Teacher Choices project evaluating the impact of using ChatGPT for lesson preparation
- Significance: Contributing to rigorous research that generates evidence-based insights into the effectiveness of AI tools for teacher practice

Through these partnerships, AI in Education is strategically positioned at the forefront of the AI revolution in education. Our work is shaping policy, empowering educators and fostering digital citizenship amongst young people. We believe that by working together, we can harness the transformative potential of AI to create a more equitable and effective education system for all.

Case studies and successes

Executive summary

Our AI in Education initiative has made significant strides in transforming educational practices across various institutions. Through a series of targeted interventions, workshops and presentations, we've successfully introduced AI technologies to educators, demonstrating their potential to enhance teaching methodologies and pupil learning outcomes. The following case studies and testimonials highlight the tangible benefits and successes of our programme.

AI in Education

CASE STUDY 1: SURREY'S SECONDARY SCHOOLS CURRICULUM LEADERS FORUM

Context
We conducted a presentation for the SAfE (Schools Alliance for Excellence) Curriculum Leaders forum, reaching 300 curriculum leaders from Surrey's secondary schools.

Impact
The session served as a catalyst for high-impact learning at scale, introducing AI concepts to key decision-makers in education.

Testimonial
Michele Miller, SAfE Learning and Leadership Consultant, stated:
"The feedback in the chat was exceptionally positive and appreciative. I feel so lucky that we were able to get you to work with this group. We had representation from many of Surrey's secondary schools, with 300 curriculum leaders present. As the group of professionals in schools that are responsible for effective implementation, I know that this session is the catalyst for high impact on learning at scale."

CASE STUDY 2: DLD COLLEGE LONDON'S INSET DAY

Context
We delivered an In-Service Training day presentation at DLD College London, focusing on AI integration in education.

Impact
The session was highly engaging and informative, inspiring educators to consider AI implementation in their teaching practices.

Testimonial
Irfan H Latif, Principal of DLD College London, shared:
"One colleague said, 'It was probably the most engaging and informative presentation in my five years at DLD.' High praise indeed and I am grateful for your support, energy and enthusiasm. You are helping transform countless lives with the new guard of Impressionists."

AI in Education

CASE STUDY 3: ELMWAY LEARNING TRUST TEACHER TRAINING

Context
We conducted a session on the Use of AI in Education at Elmway Learning Trust.

Impact
The presentation received overwhelmingly positive feedback, with immediate implementation of AI concepts by some teachers.

Testimonial
Anne Cullum, CEO at Elmway, reported an average rating of 4.79/5 for the session, with comments including:

- *"Excellent presentation, very informative"*
- *"Useful to find out how AI could be used in lessons"*
- *"Engaging and thought-provoking"*
- *"Best external speaker we've had in years, blew my mind, I have already started implementing"*

CASE STUDY 4: KINGSTON AND RICHMOND HEADTEACHERS' CONFERENCE

Context
We presented at the Kingston & Richmond Headteachers' Conference, introducing AI concepts to school leaders.

Impact
The presentation was described as inspirational, providing valuable insights for educational leadership.

Testimonial
David Smith, Headteacher and organiser of the conference, stated:
"It really was an inspirational presentation, giving us all much to think about as to how we move forward. If I am honest, I am rarely hanging on every word of a presentation, but I certainly was on Friday."

CASE STUDY 5: THOUGHT LEADERSHIP PODCAST ON AI IN EDUCATION

Context
We participated in a podcast episode featuring Chris Goodall, discussing the implications of AI in schools and education.

Impact
The podcast provided a deep dive into AI in education, offering valuable insights and sparking discussions among educators.

Testimonial
Patrick Behan, a Strategic Educational Leader, shared his thoughts on the podcast: *"If you have 50 mins spare, this episode with Chris Goodall is mind-blowingly good. Deep dive into AI in schools and edu implications."*

AI in Education

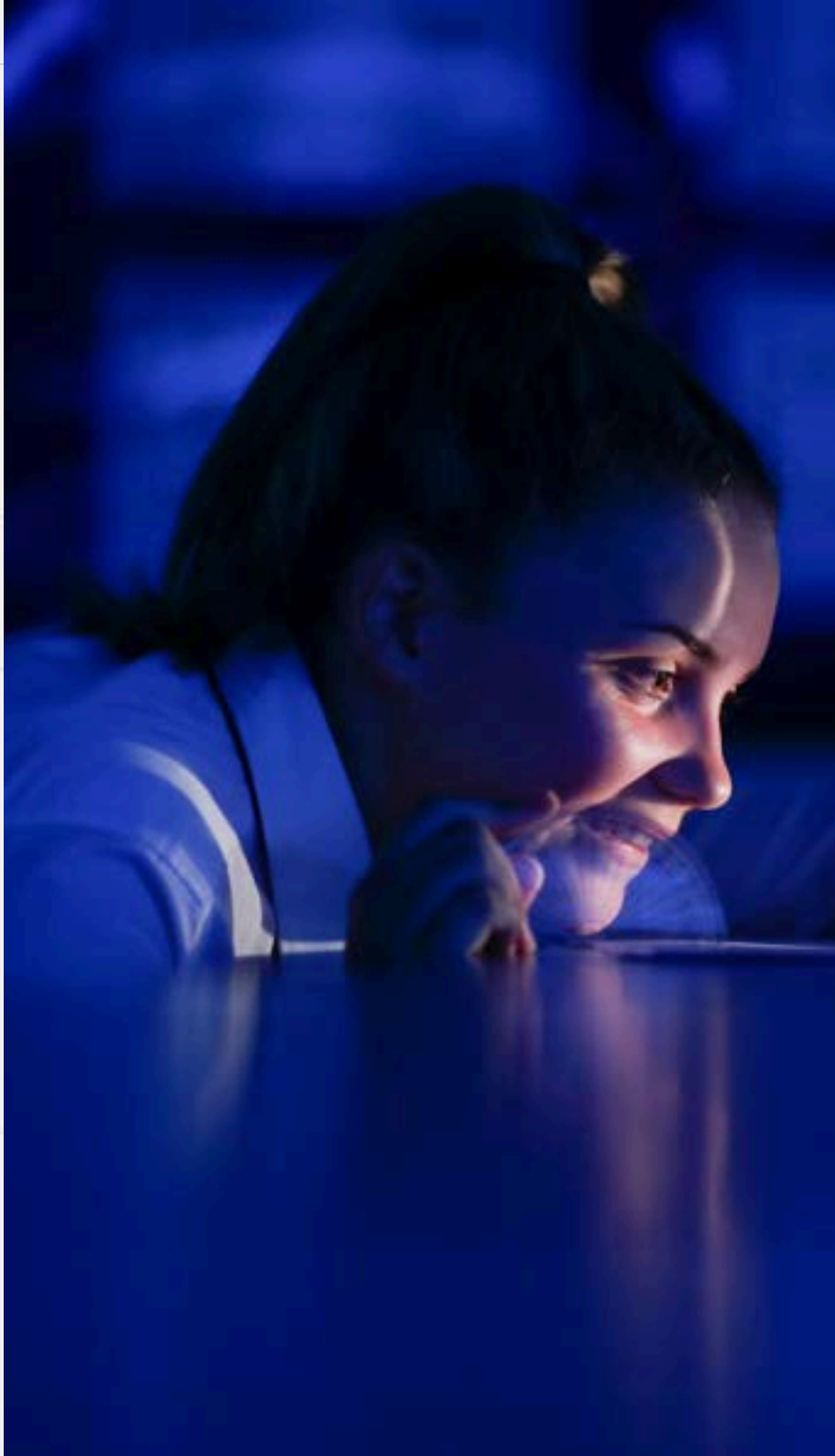
Additional achievements
Our initiative received a Global Inclusion Award from the International Forum of Inclusion Practitioners (IFIP), recognising our efforts in promoting inclusive education through AI. We've been featured as an example of outstanding practice by the IFIP, gaining additional visibility within the international education community.

The AI in Education initiative has demonstrated significant success across various educational settings. From curriculum leaders to headteachers, our presentations and workshops have consistently received high praise for their informative and inspiring content. The immediate impact is evident in the enthusiastic feedback and the rapid implementation of AI concepts by educators.

Pilot programmes
We have recently completed 4 pilot programmes.

AI assistant
A six-week pilot project explored the impact of AI pupil assistants on independent learning in secondary school classrooms. The project involved pupils using a tailored AI assistant to answer questions, clarify concepts and access information during independent learning activities. Teachers also reported that the AI assistants effectively supported pupils and allowed them to shift their role towards facilitation and higher-level guidance. However, challenges were identified regarding the accuracy and learning capabilities of the AI assistant, highlighting the need for ongoing development and the importance of teacher oversight. These findings suggest that AI pupil assistants hold considerable promise for enhancing independent learning, but thoughtful implementation, ongoing evaluation and continued AI development are essential to maximise their effectiveness.

AI in Education



AI image

A six-week pilot project examined the impact of AI image generation on pupil writing. Conducted in a primary school setting, the project involved pupils using an AI tool to create images based on their written descriptions. The results demonstrate overwhelmingly positive outcomes, including increased pupil engagement, enhanced creativity and idea generation, and perceived improvements in writing quality. The pilot also revealed important considerations for successful and equitable implementation. These findings strongly suggest that integrating AI image generation into education, with appropriate support, resources and attention to potential challenges, can be a powerful tool for improving writing instruction and outcomes.

AI reading progress

A six-week pilot project explored the impact of Microsoft Reading Progress on pupil reading fluency. Implemented in primary school classrooms, the project enabled pupils to record themselves reading passages using the Reading Progress tool, which provided automated analysis of their fluency, accuracy and identified words needing practice. Results indicate a positive impact on pupil reading fluency, increased pupil engagement and confidence in reading aloud, and valuable insights for teachers to inform personalised instruction. While the pilot highlighted occasional challenges with the AI's accuracy in recognising diverse accents, the overall findings strongly suggest that Reading Progress is an effective and valuable tool for supporting reading development and fostering a love of reading in young learners.

AI SEND

A six-week pilot project exploring the use of AI for adapting lesson resources to support pupils with special educational needs and disabilities (SEND). Conducted in a primary school setting, the project enabled teachers to use AI tools to modify existing resources to better meet the diverse learning needs of their SEND pupils. The results demonstrate a range of positive outcomes, including increased teacher confidence in personalising learning materials, time-saving benefits in resource adaptation and positive pupil feedback on the adapted lessons. However, the pilot also highlighted challenges related to AI accuracy, the need for improved functionality and teacher training, and the importance of balancing AI support with individualised teacher interventions. These findings suggest that AI, while a promising tool for fostering inclusive education, requires careful implementation and ongoing development to realise its full potential in supporting SEND learners.

AI in Education

Supporting research on the effectiveness of AI in education

A full spreadsheet of research papers can be accessed here.

This analysis summarises a collection of research spanning two decades (2000-2023) exploring the effectiveness of AI in education. The body of work, encompassing meta-analyses, systematic reviews, experimental studies and literature reviews, reveals a compelling narrative of AI's transformative potential across diverse educational contexts.

The research underscores the transformative potential of AI in education, showcasing its effectiveness in improving learning outcomes, enhancing engagement and empowering educators. However, navigating the ethical complexities & ensuring responsible AI integration are critical to unlocking its full potential and creating a more equitable and enriching educational experience for all.

Pupil perspectives

We conducted a pupil survey to understand the experiences and perspectives of young people regarding the use of AI in education. The data, collected from 522 pupils in years 6-13, provides compelling evidence for the need to invest in initiatives that promote responsible and effective AI integration in schools.

AI awareness and usage

86.4% of respondents report having used AI in some form, with ChatGPT and Snapchat AI being the most widely recognised and utilised tools.

AI in Education

Usage frequency varies, with a significant portion using AI several times a week or even daily. Pupils leverage AI for academic purposes like homework and research, but also for entertainment, music and personal organisation.

A Year 10 pupil shared, *"I use AI to proof read my essays, get ideas for homework and revise by having it ask me questions."* This demonstrates the multifaceted ways pupils are already incorporating AI into their learning process.

AI is no longer a futuristic concept for pupils; it is an active part of their lives.

Challenges and concerns

Cheating and plagiarism have emerged as the most pressing concern, with pupils expressing worries about classmates using AI to complete assignments without genuine learning. Pupils also fear becoming overly dependent on AI, potentially hindering their critical thinking and problem-solving skills. Concerns were raised about the reliability of AI-generated information, highlighting the need for pupils to develop critical evaluation skills.

A Year 13 pupil expressed, *"AI could easily make creative subjects redundant and strip the human nature of literature from the subject."* This highlights a fear among some pupils that AI might diminish the value of human skills and creativity.

Opportunities and benefits

Pupils recognise the potential of AI to personalise learning experiences, providing tailored resources and support for individual needs. AI-powered tools are seen as valuable for revision, offering personalised study plans and practice questions. Pupils see AI as a valuable assistant for teachers, helping with lesson planning, grading and providing data-driven insights.

A Year 9 pupil suggested, *"AI can help create more inclusive learning environments by providing assistive technologies for pupils with disabilities."* This demonstrates the potential of AI to enhance accessibility and support diverse learning needs.

Pupils envision AI as a powerful tool for enhancing education, creating more personalised and effective learning experiences.

Future implications

64.6% believe interacting with AI will be crucial for their future careers. However, the potential for job displacement is a significant worry. Pupils anticipate a future where AI plays a central role in education, influencing learning methods, assessment and teacher roles. Pupils recognise the wider implications of AI on society, expressing concerns about ethical use, data privacy and potential misuse.

A year 9 pupil stated that, *"AI will impact my future career possibly by altering salary and payment systems."*

Preparing pupils for an AI-driven future requires investment in educational programmes that foster AI literacy, ethical awareness and adaptable skills.

Community

We have achieved effective engagement through outreach, discussion and sharing. Our website and media presence is now firmly established and we provide a regular newsletter with updates. Our panels provide regular discussion forums for collaborating and our three conferences and SEND hackathon have been successful events to showcase current thinking, allowing colleagues to connect.

Guidance and innovation

We have made less progress in offering evaluations of edtech products and offering expert advice on the ethical principles for AI in education. Whilst we have explored some emerging technologies with classroom potential, this has been limited by our current lack of capacity.

AI in Education

Summary of year 1

National picture

As of June 2024, UK schools are better prepared for AI integration compared to September 2023. The Department for Education has made progress in terms of policy and guidance. By early 2024, they had released initial guidelines on AI use in schools, providing a framework for integration. However, these guidelines are still evolving as the technology and its applications in education continue to develop rapidly. There's been increased awareness and discussion around the ethical implications of AI in education. Many schools are more prepared to address issues like data privacy and algorithmic bias, but this remains a complex and evolving area. Schools have likely developed more robust strategies for AI-related safeguarding issues, but this remains an area of ongoing concern and development.

There has been a significant push for AI-related professional development. Whilst many schools and local authorities have initiated training programmes, and online courses have become widely available, our experience is that that the depth and consistency of this training across the country may still vary considerably.

AI in Education

The National Curriculum has begun to incorporate AI-related content, particularly in computing and STEM subjects. However, there appears to be little appetite to completely review our curriculum offer and related pedagogy. Furthermore, there has been little response from the examination boards for calls to adapt and integrate these new technologies into assessment processes.

The government has recognised the digital divide, but not yet offered additional new funding for schools, so while improvements have been made, disparities between schools in different areas and with different priorities still exist.

Initiative overview

AI in Education has achieved most of what it set out to do in its first year. Where it did not, it was due to a lack of funding and capacity. Its reputation with schools and colleges is strong. It represents approximately 1,500 schools and colleges and has 57 practitioners who are constantly offering case studies to share best practices. It is working closely with government and has partnerships with the edtech industry. It is ideally placed to lead the school and college sector in transforming the experience of pupils and teachers in our education system.

AI in Education

2024-25: Year 2 strategy

We have agreed the following targets for 2024-25

- Secure funding until the end of Year 4 (Aug 2027) if not longer and develop a self-financing model for the business
- Launch a redeveloped fully AI powered website that collates studies and offers analysis to build a searchable evidence base regarding AI in education
- Utilise professional, modern marketing methods, via various channels, to publish our work and ensure maximum exposure and impact across the sector
- Develop our training arm to offer extensive in-person and online training for all phases and sectors; organise a greater online presence and develop our hackathon offer
- Develop professionally badged, standardised documents made available to educators
- Evaluate the latest products with practitioners' comments on the website
- Create a team that collects, evaluates and collates latest research
- Offer signature mark validation for schools and colleges embracing AI and using it effectively
- Establish an international network organised by regions globally
- Consolidate the business as the ‘go-to’ institution for the government to work with.

AI in Education

Conclusion

The use of AI is the most significant change in education in the early 21st century. AI in Education has made a strong start and is in prime position to lead schools and colleges in the UK. The opportunity to level up education for all children has been an ambition of many for nearly two centuries. Using AI constructively and creatively makes it now genuinely achievable.

AI in Education Steering Group
June 2024