Department for Education

# The safe and effective use of AI in education

## Module 1 – Understanding AI in education video transcripts

May 2026

# Contents

# Video 1 – An introduction to AI in education

Presenter: Welcome to module 1, video 1 from the safe and effective use of AI in education resources.

We are living through a time of rapid technological change, with artificial intelligence or AI transforming the way we work, communicate and learn, from automating repetitive tasks to supporting our planning of lessons. AI has the potential to support education in many ways, reducing workload and supporting staff in powerful new ways. But, as we embrace this technology, the role of the human is more important than ever, grounded in critical thinking, professional judgement and ethical responsibility.

We know many school and college staff feel uncertain about AI. Some are excited about its possibilities, while others are concerned about the risks or simply don't know where to start. That's why these materials are designed for everyone, whether you're brand new to AI or already using it and experimenting with its capabilities.

In these resources, we will demystify AI, explore its implications for education, and consider how it can be used safely and effectively. We will highlight key risks, particularly in relation to safeguarding, data and intellectual property and provide practical guidance on responsible AI use. Our hope is that you feel inspired and empowered to explore AI confidently and use it to reduce workload and enhance learning while maintaining the values and professional judgement that define great teaching.

These support materials align with the Department for Education's position on AI in education. The resources have been developed through extensive consultation with school and college staff. We conducted surveys, roundtable events and spoke to a range of staff from schools and colleges to understand their perspectives on AI, and these insights shaped our approach.

In this first module we'll be exploring the question, what is AI and how does it work, with a particular focus on what we need to know as school and college staff.

The DfE has stated that “AI has the power to transform education by helping teachers focus on what they do best: teaching.” Generative AI can streamline administrative tasks for teachers and TAs, and support lesson planning and assessment. It can also reduce the administrative burden more widely for all college and school staff.

Bukky Yusuf, Deputy Headteacher and Science Lead, Edith Kay School:

“Some of the key benefits of generative AI for educators is the fact that you can create some really interesting, differentiated and personalised learning resources.”

Aaron Patching, Strategic Digital Leader and AI Network Lead, River Learning Trust:

“So, we found that image generators were a fantastic way to hook them in. And again, that we linked that to a specific purpose because we wanted to work on their oracy. We wanted to work on their descriptive writing.”

Chris Loveday, Vice Principal, Barton Peveril Sixth Form:

“Look, the first thing when anybody is exploring the use for artificial intelligence is, what problem you trying to solve? Where do you see it being a solution? If you're just chasing artificial intelligence because it's the new technology on the scene, then you run the risk of potentially wasting money and actually highlighting inefficiencies in your current network and systems. At Barton, we had identified some workflows in our business services that we felt could be optimised through the use of AI, effectively, types of work that are decreasing productivity, and/or increasing error rate. So we felt that if we used artificial intelligence to focus on those problems, what we would do is create capacity in the teams for the things that require the human element, i.e., giving AI what it's good for, but freeing the human up for what they're good for."

Daniel Emerson, Executive Director, Good Future Foundation:

"For me, I think positive examples always come from decisions that are grounded in purpose. So, thinking through the problem that you want to solve before you look at a tech solution. And examples of that using AI are particularly around things like engaging learners that are otherwise completely disengaged from a subject. Generative AI is brilliant at being able to reframe subject-specific content. An instance of that might be developing an interactive game around a maths module or a science module, for a student who otherwise had zero interest in that subject. And through these tools, you'll suddenly be able to create an interest, an enthusiasm, or develop the content so that it aligns with the passion of the student. And because it's so easy to differentiate in this case, the possibilities are endless with what that could look like. So, there are some fantastic examples of this happening."

Dr Fiona Aubrey-Smith:

"Rather than thinking about where we can use AI and integrate it into our practice, that's great, but maybe we should be thinking, what's the human value add in our practice? And how can we use AI to create the capacity, the augmentation, to allow that human to flourish?"

Ben Whitaker and Steven Hope, Podcast Hosts, Edufuturists Podcast:

“My favourite thing about AI is not AI itself it’s the ability and the rising up of human intelligence. This is not a new thing - human intelligence and the knowledge versus skills debate, and all those conversations - what AI has brought is that it doesn’t get upset, it doesn’t really respond negatively to anything that’s going on, great but ultimately what it doesn’t have is empathy, understanding all of those and we need to focus down on developing humans because that’s what’s going to make the world wonderful.”

Presenter: Artificial intelligence or AI is a field of computer science dealing with the mimicking of human intelligence. The computer scientist, Alan Turing, spoke of AI as far back as 1947. He said in a public lecture, what we want is a machine that can learn from experience.

You'll have heard of generative AI applications, such as ChatGPT, Gemini or Copilot. These tools use a type of AI known as large language models, and many of you may well be using these types of tools regularly. Others may just be starting to think about how you might use AI tools.

We are now going to briefly cover some key definitions that we need to know, which we are going to return to later in the module. AI is an umbrella term covering a number of different types of AI. We'll look at generative AI in more detail later in the module, but there are some key definitions it's useful to know.

We're used to computer programs performing in a predictable way due to how they're programmed. These traditional programs or apps are known as rule-based systems. But many of the newer, generative AI tools are data driven rather than rule based and they approach problems in a different way that is much less predictable.

Another important term is prompt. A prompt is the instruction that we give generative AI. It is often in the form of natural language but could also contain images or files.

Narrow AI is the type of AI designed for specific tasks and can't be easily adapted to do other things. It works using carefully selected data to complete a particular job. Some examples include facial recognition, such as that used to unlock phones, and the AI in spell checkers or adaptive learning tools. It is also the technology behind some important assistive technologies, such as voice dictation tools that can be used to support learners for whom writing may be a barrier.

General purpose AI can perform many different tasks rather than just being limited to one job. It's trained on large amounts of data and can be adapted for different uses.

Generative AI is a type of AI that creates new content, such as text, images, videos, or even music, based on a user's input or prompt. This is the type of AI we'll be focusing on the most throughout these materials.

Large language models are a type of general purpose, generative AI designed to understand and generate human-like texts. These models are trained on vast amounts of text and can answer questions, summarise information and even translate languages. Some will also deal with video or images.

Deep learning is a more advanced form of machine learning, inspired by how the human brain works. We'll be learning more about this in the next video.

What makes generative AI so accessible is that it is a type of AI that can generate content based on an instruction given by the user. This instruction is known as a prompt. Interaction with an AI system can be conversational, using everyday language, and can also involve images, audio, or video.

While generative AI systems can appear convincingly human, it's important to always remember that it's only ever a very effective technology.

Miles Berry, Professor of Computing Education, University of Roehampton:

“In thinking about what we mean by artificial intelligence, it's worth taking a step back and thinking about what we mean by intelligence. Think perhaps of your pupils who demonstrate something that you see as intelligence. What does that mean? It means that they have some sort of understanding of the world in which they find themselves. It perhaps means that they're reasonably articulate, they're able to express their ideas well. Perhaps you would say it means that they have some sense of agency. They can choose what they want to do. They're able to make decisions for themselves.

“You would also, I hope, acknowledge that it includes an element of being able to learn from their experience to be able to get better at doing things. When we talk about artificial intelligence, we might be thinking of many of those things about being able to make sense of experience, being able to learn from the environment, learn from data and spot patterns and determine rules from that, much like an intelligent person would.

It perhaps also includes some more general sense of all round understanding of knowing things in some sense and being able to express ideas and perhaps even to have some degree of agency to be able to affect things. So artificial intelligence covers a whole multitude of things, but I think the easiest way to think of it is when a machine can do something which perhaps previously, we'd have assumed for a human being to do requires a degree of intelligence.”

Presenter: As a user of a generative AI tool, you are responsible for what you put in and how you use the output. AI can be used to complete tasks such as writing emails or newsletters, generating ideas for lessons, translating articles, simplifying content, and much more.

Bukky Yusuf, Deputy Headteacher and Science Lead, Edith Kay School:

“Resources can be in the text formats. It could be audio, even video now as well. And I think it really allows you to just do different things in a way that we haven't done that can really engage young people but also allows young people to learn in different ways, both within and beyond school.”

Presenter: AI can be an effective and useful tool for school and college staff by saving time and reducing workload. An Education Endowment Foundation study found that AI can reduce the time taken to do some areas of work by more than a third. The

Department for Education has created clear guidance in its policy paper, Generative AI in Education. This clearly sets out the opportunities and risks associated with generative AI use in education. And these materials are designed to support you in exploring these opportunities and risks.

Artificial intelligence holds particular promise for learners with Special Educational Needs and Disabilities or SEND. When implemented with care, AI-based assistive technologies can help to remove barriers, tailor activities and adapt resources.

If we're going to use generative AI safely and effectively in education, we need to make sure that we're following best practice while being aware of the limitations and potential biases. For example, while UNESCO has said it's committed to harnessing the potential of AI technologies for education, it also emphasised that this use must be guided by the core principles of inclusion and equity of a human-centred approach to AI.

The Department for Education has set out some basic actions all school and college staff should take if we're using generative AI. For example, we need to critically evaluate the outputs of generative AI to make sure it's accurate, free of bias and appropriate for the context. There has to be human oversight and accountability. We should adopt good data practices and avoid actions which would infringe data protection or intellectual property law.

It's important to follow the relevant policy in your setting. You should also refer to the Department for Education’s generative AI policy paper and Product Safety Standards. We need to understand and follow the process for reporting any issues or concerns about generative AI at school or college. Given it's such a rapidly developing field, it's good to stay up to date on best practice for the use of generative AI in education, and these support materials will help you with that.

AI is already all around us. According to Ofcom's 2025 media use and attitudes report, half of children aged 8 to 17 said they had used generative AI technology. This is up from 46% the previous year. In the BETT white paper: ‘The Next Generation on AI, Education and Opportunity’ which surveyed 10,000 students, 79% said they know more about AI now than a year ago. As school and college staff, we have a responsibility to understand the rapidly changing digital landscape they are experiencing.

In these materials, we'll explore some of the use cases in education as well as limitations. This module, understanding AI in education, asks the question, what is generative AI and how does it work? Module two looks at interacting with generative AI in education, module three looks at developing the safe use of generative AI in education and module four looks at key use cases for all staff.

As a minimum, we recommend that all staff are familiar with the content of module 3 to be able to understand how risks in using AI can be mitigated.

Accompanying these support materials for all staff, there is a leadership toolkit, and this is specifically designed for education leaders, including SENCOs, school business managers and governors looking to integrate the use of AI safely and effectively in their settings.

# Video 2 – Focus on generative AI in education

Presenter: Welcome to module 1, video 2 from the safe and effective use of AI in education resources.

In the first video in this module, we learned about some of the uses of AI in education and had an overview of how generative AI works. Generative AI has many uses for school and college staff, which we'll explore further in module four. Examples include generating lesson resources, supporting lesson planning, and creating a podcast with virtual presenters to support revision on a specific topic. We can also generate a structured report from handwritten notes or draft parental letters from notes and translate them rapidly into different languages.

But first, let's explore in simple terms how AI works. Most of us use AI tools every day without even realising it. Narrow AI, such as email spam filters, predictive texts and autocorrect, all rely on AI to analyse patterns and make predictions based on large datasets. There are also other applications for AI beyond generative AI, such as adaptive testing platforms that personalise learning, and image recognition systems that describe something shown to a camera for someone who is visually impaired or blind.

Generative AI is a type of AI that creates content such as text, images, audio, video and code. This area of AI is evolving rapidly and could support education in a number of ways. It is all possible because of deep learning, which is a type of machine learning. Machine learning is a field of study within AI where a computer program is trained on data and uses this training to make predictions based on that data.

For example, in medicine, machine learning has been used to analyse large datasets and assess the likelihood of a patient developing certain conditions based on their medical history and risk factors. Deep learning is a subset of machine learning, and a key element of deep learning technology is neural networks. Neural networks consist of interconnected nodes designed to replicate how our brain works. These neural networks allow a deep learning model to learn from uncategorised data efficiently, making it easier to use much more data to train the model.

This means we need to be particularly careful with the data and information we provide in our prompts, avoiding including personal data such as names, addresses, phone numbers, protected characteristics, and business-sensitive information such as financial details. We must also avoid using intellectual property where we don't have permissions in place, and this could include pupil or student work. We'll learn more about this later in the resources in module three.

LLMs, such as ChatGPT, Gemini, or Copilot, have natural language interfaces, which means we can use everyday text and speech patterns to give instructions to the model. These instructions are the prompts we mentioned earlier. In some models, it is also possible for a prompt to contain images or code.

To summarise this process, you type in your prompt, the LLM breaks down your prompt and analyses it for context and meaning based on the patterns that it has learnt. Then it comes up with a predicted response based on its prior learning and gives this back to you as an output. This output could be text, but it could also be images, audio, video, or even code.

The output often feels natural and human-like. It's important to remember, though, that an AI model isn't human, but it’s designed to interact like a person might. It doesn't think, feel, or have the same contextual understanding of the world that humans have.

The process doesn't stop once you've received this response. You can fine-tune it by giving further prompts. You might not be happy with the level of detail, or it may be too complicated or too long.

Your follow-up prompts will improve your outputs, just like with an email spam filter where we mark things as "not being spam", or when we tell our messaging apps not to auto-correct certain words.

As school and college staff we need to avoid using free personal accounts or public large language models that offer free accounts. As we mentioned previously, this is because inputting personal or sensitive data creates data protection risks. These models are typically hosted and managed by external providers, and any data you submit may be processed or stored outside of your organisation's control, potentially breaching data protection regulations.

Public large language models may also use your data to develop their AI model further. Under UK GDPR, organisations must ensure that personal data is handled lawfully, transparently and securely. Inputting such data into a public large language model risks unauthorised access, transfer of data across borders and loss of control over how long data is used and retained.

Staff should only use tools approved for use in their education setting. These accounts are often referred to as enterprise accounts, and these usually offer added protections for your data. These are often available within your school’s education suites of online software (for example, in those offered by Microsoft and Google). These enterprise tools generally won’t learn from your inputs, significantly reducing the risks related to data and intellectual property.

If you are allowed to use public or free personal large language models by your setting, you must pay particular attention to the data you share. It is recommended that personal data is not used in these generative AI tools, as the system may store and learn from input data, meaning any data you enter should not contain information that could allow an individual to be identified. You will find out more about this in detail, in module 3.

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