

Al in education

Facilitators key



Send your views - please use the feedback portal to share group responses to this section.



Optional feedback - the feedback portal includes an optional form to share your group responses to this section



Full session activities - only include these slides / activities if you are running a full 90 minute or longer session

Before you start: Make sure you have your unique feedback code, and can follow the link in your registration email to the feedback portal from a computer in the classroom / workshop room.

More info at https://connectedbydata.org/ai-in-education/

Al in education



We are going to explore

- What is AI and generative AI?
- How could generative AI be used in education
- What are some of the issues with generative AI
- Who makes decisions about AI in education
- Your say: share your views on generative AI in education



What does AI stand for?

Mini-discussion:

- What sorts of things can AI do?
- What can't AI do?

AI stands for 'Artificial Intelligence'. AI uses computer programs to find patterns in data.

Using lots of data, and complex algorithms, AI systems might be used to try and:

- Predict
- Suggest
- Recognise
- Generate

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- Suggest e.g. the next song you might like to listen to
- Recognise e.g. speech recognition or facial recognition
- **Generate** e.g. chatbots or image creators

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- **Recognise** e.g. speech recognition or facial recognition
- Generate e.g. chatbots or image creators

We are focussing on generative AI

Artificial intelligence

Artificial Intelligence has been around for a while

Quiz: When do you think the term Artificial Intelligence was first used?

- 1822
- 1956
- 1989
- 2015

Artificial intelligence

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- **1956**
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In 1956 a group of scientists met to explore whether computers could carry out tasks that normally need humans. They called their goal 'artificial intelligence'.

Since then researchers have tried many different ways to get computers to mimic or simulate human activities.

Generative AI (GenAI)

Generative AI is quite new

Quiz: When do you think generative AI started to be widely used?

- **1991**
- 2010
- 2022
- 2025

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The high profile ChatGPT chatbot launched in November 2022 and was soon used by millions of people.

In the last three years many organisations, including schools, have been exploring ways they can use generative AI.

Generative AI (GenAI)

Coming up:

- In a few minutes we will look at examples of **generative AI** in education.
- **First:** Your views on AI matter

Yoursay



Your say

The United Nations Convention on the Rights of the Child gives everyone under 18 rights:

- To be protected from harms and discrimination
- To **provision** of play, education, health and other good things
- To participate and have your say on decisions that affect you

Your say

- In this session you will have a chance to have your say about generative AI in education
- In early 2026, the Department for Education will host an **international summit on generative AI in education**. Education ministers from countries around the world will join with international experts and AI companies to explore how AI tools can be better aligned with the needs of education.
- To support the summit, the Department for Education wants the views of pupils across the country.



A note from Connected by Data:

Your views need to be sent in by 15th December 2025 to feed into the Summit.

We will share an email update with your teacher or group leader after the Summit to let you know what happened.

Your say

We may not be able to cover all the views or ideas you have about AI in this session.

We have a **parking lot** where we can write-up issues that are not covered.

We can send this list back to the Department for Education to let them know that you also have views on these issues.

'Parking lot'

Where we 'park' ideas that we don't have time to talk about right now.

Summary: Having a say on Al

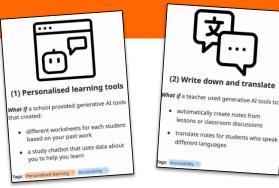
- **You** have a right to express your views on AI.
- Schools make choices about how they use AI.
- The **government** sets rules and provides guidance for schools and companies about AI. They should listen to your views to inform their decisions.
- Responsible companies should take your views into account when deciding how AI systems should work or be used.

Al in education

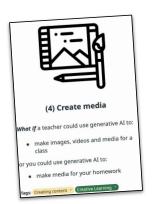


Al in education: Tools

- We are going to look at some of the ways
 generative AI can be used in education
- There are cards describing 12 different generative AI tools
- With your cards talk in small groups:
 - What do you think the **benefits** might be with using this kind of tool in education?
 - What do you think the **problems** might be with using this tool in education?







Al in education: Tools



Benefits

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#### (3) Plan lessons

What if a teacher could use generative AI to:

- create a lesson plan specially for the needs of each class
- automatically create slides and worksheets for the lesson

Tags: Creating content • Reducing teachers work •

#### **Problems**

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two feedback activities in a full session...

Teachers will choose one of these

Al in education: Tools



Class vote: show of hands

- Students share feedback on each tool
- Run through the list
- Show of hands if you think this is a good use of generative AI in education (benefits outweigh problems)

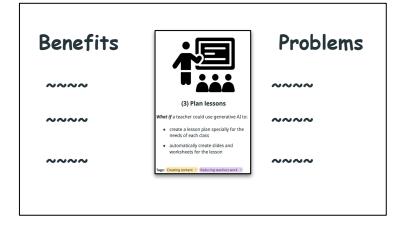
- (1) Personalised learning tools
- (2) Write down and translate
- (3) Plan lessons
- (4) Create media
- (5) Mark work
- (6) Help research
- (7) Communication
- (8) Virtual worlds
- (9) Writing aid
- (10) Setting school rules
- (11) Character chat
- (12) Check what you have learnt

Al in education: Tools



Carousel and dot voting

(1) In groups come up with benefits and problems for your tools



(2) Look at other sheets, and vote for (✓) or against (X) the tools you think are good uses of generative AI in education



(3) Count to vote to find the groups top-3 and bottom-3 tools.

Issues with Al



Issues with generative AI in education

- People have different views about AI in education
- We have worksheets that show what different people might think about 11 AI Issues
- In small groups: Look at the issues and discuss. Do you agree with any of the points? What do you think about this issue?

Bias What's the issue? ■ AI model creators collect and select huge amounts of information and use this to ■ The information AI is trained on might come from large collections of scanned books, online message boards, and billions of photos and videos gathered from the ■ Sometimes this information contains harmful ideas like racism or sexism, or it might not include enough information on particular cultures or languages. This is bias. The bias in the data going into AI models and in the way they are used can mean that the things that generative AI creates are biased too. What do people say about it? I think teachers should always look at what the Al makes and Educational tools can have safety because Al is supposed to filters built in so that they don't save them time they could use produce too much harmful the spare time to fix any bias in content unless someone tries to go around the filter. I read that some Al marking tools I feel that the world is not fair, and give worse marks to people whose Al just shows that back to us like first language is not English. a mirror. That is better than pretending bias isn't there Al tools might give people different advice or support just A teacher knows to avoid bias but depending on their name when Al generates a worksheet because the name is associated with lots of small problems in. with a particular culture or they might not spot them all. gender. That's not fair! What do we say about it? Discuss with your group what you think about this issue. There is space here to write down what you want to say about it.

Issues

- A Bias
- **B** Personalisation
- **C** Not thinking for ourselves
- **D** Accuracy
- **E** Personal data & privacy
- F Cost
- **G** Environmental impact
- **H** Safety & reliance

Teacher note: Handout
worksheets
Or
Use slide versions from
the end of this deck

Issues

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Who decides how Al works in education?





Who decides how AI works in education?

Most generative AI tools for education are made up of at least three different pieces.



Prompt: Entered by a teacher or student to tell a tool what you want it to do.



System instructions: Added by the company that built the tool to decide how it should work.



AI Model: Trained on lots of data to generate responses to the prompt and system instructions.

Who decides how AI works in education?

When we use an AI tool, different people make decisions about how it works.



Teachers & schools: decide which AI tools to use in the classroom. With your parents/guardians, you might make decisions about using AI tools at home.



Education Tech Companies: decide what tools to make, which model to use, the data to share, and what safety measures to add.



AI Model Companies: decide how their models will work, what data to train on, and how to balance safety, speed, energy use, cost and accuracy of the model (among other things).

Who decides how Al works in education?

When we use an AI tool, different people make decisions about how it works.



Teachers & schools:



Education Tech Companies



AI Model Companies

The government can also set some of the rules for how each of these groups should behave.

Who decides how AI works in education?

- Sometimes education tech and AI model's are provided by the same company. Sometimes they are different companies.
- Schools sometimes have choice over which companies to buy education tools from. Sometimes they have to use tools provided by government or someone else.



Education Tech Companies



AI Model Companies

Worked example



Prompt: Create a quiz to test what Year 8 have learnt about magnets

System instructions:

Each question should have 4 choices: one silly, two wrong and one right.

The science curriculum says what Year 8 should know about magnets.

Model: Fine tuned to always provide praise even when someone gets the wrong answer.

Trained on hundreds of books, videos and websites about magnets.

Who decides? - Knowledge check / our worked e.g.



Prompt: System instructions: Model:

Who decides?



Prompt:

A teacher decides on how to prompt AI, or what data to feed in

System instructions:

An Education Tech company writes system instructions and configures the system

Model:

A model company decides how to train and fine-tune an AI platform.

Recap: Who decides how AI works in education?

- The government provides rules and guidance
- Schools and teachers decide which tools to use, and how to prompt them
- Education Tech companies decide what and how to make AI tools for education
- AI Model companies make decisions about the foundations on which many Generative AI education tools are built

Have your say



Have your say

In early 2026, the Department for Education will host **an international summit on generative AI in education**.

Education ministers from around the world will join with international experts and AI companies to explore how AI tools can be better aligned with the needs of education.

To support the summit, the Department for Education wants the views of pupils across the country.



Secretary of State for Education and Minister for Women and Equalities The Rt Hon Bridget Phillipson MP

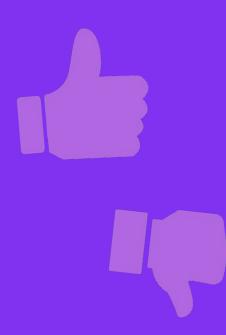


Department for Education

Have your say

■ **Part 1:** Vote on **statements** about what government and companies should do.

Part 2: Share your creative visions about generative AI in education Agree / Disagree: Action on generative AI in education



Agree / Disagree





- We will look at a number of statements about generative AI in education
- As a group we have to decide if we agree, disagree or are unsure about the statement
- We can come up with a statement of our own

Agree / Disagree





- Complete as many statements as you can you don't have to cover them all (they are shown in random order)
- Our responses will be combined with other groups to understand patterns of views on generative AI in education.
- All the new statements we suggest will be reviewed, and some may be selected to be shown to future groups completing this activity.

Collective voice: pol.is

Here's what Pol.is looks like...



Access your own version in the feedback portal.

Your say: creative expression



Your say: creative expression

Your teacher will have chosen one or more of the following activities for your class to complete.

Feedback to an AI Maker

Write a letter to the maker of an Al Education Tool or Al Model to tell them what you think they should be doing.

Education with or without

Create two representations of future education:

- one where generative
 Al is being used;
- one where generative
 Al is not in use.

Our education app

Design your own Education App. Annotate it with the decisions you have made and whether it makes use of generative AI or not.

Your Say: creative expressions Feedback to an Al Maker

Feedback to an Al Maker

Lots of digital tools have a feedback form where you can tell the company what you think.

Pick a tool that you looked at earlier and imagine you have been using this tool at school. Think about what it might be like and the good and bad things about it.

Write a feedback message that could be shared with the maker of the tool.

You could:

- focus on what you like and/or don't like about the tool
- suggest how it could be improved for use in education
- give reasons that would persuade the AI maker to make the changes you are asking for

Feedback to an Al Maker (example)

Example of Feedback to an AI Maker

Mention the kind of AI Tool you are writing about

Start with what you like or don't like about generative AI in education

Think about what the AI Tool Maker should do

Don't include personal information in your message.

Our school has been using your Automatic Marking tool for the last three months.

It was all going well, until our recent homework about South America. It made lots more mistakes in marking our work and said some of what I'd written wasn't true when it was. At first the teacher did not notice and I got a bad mark.

I guess your tool was trained using data that didn't include much about South America. I think that you should:

- Warn the teacher when your tool is not confident about the marks it is giving
- Improve your data so that it can be used for homework about more of the world

Kids in my class come from all over the world. It is not fair if AI marking tools cannot mark well when they write about the countries they come from.

I like that automatic marking can give me feedback quicker, but I still want my teacher to tell me what they think. Your tools should support teaching, not replace it.

Your Say: creative expressions Education with and without Al

Your say: Education with and without Al

- Create two representations of your future education: one with AI, and one without. You could draw or write to show where you might want to see AI used in education, and where you do not want AI to be used.
- If you draw, please write a short description under each one.
- **Tip:** focus on what the *experience* of education with or without AI could or should be like. Try to avoid images of robots!

Your say: Education with and without AI (Example)



Your say: Education with and without AI (Example)



I want to see generative AI used in education if it can help everyone learn at their own speed.

Your Say: creative expressions Our education app...

Your say: our education app

Design your own App for education

You could base your idea on one of the tools you have learnt about... or you could use your imagination and think about other ways generative AI could help, or get in the way of, learning.

Draw your tool's interface, or a storyboard of someone using it.

Write down:

- What the tool does
- What features it has
- If your tool was created, what would it be important to consider?

Your say: our education app (Example)

What it does:

Gives us AI reminders in the morning of the timetable and what we need to bring to school.

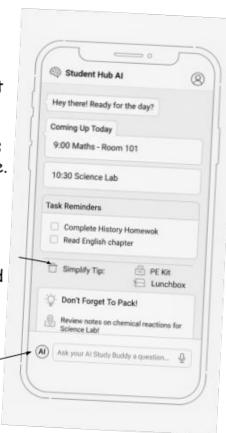
It could be on our phones, parents phones or smart-speakers at home.

Features:

It breaks down what you need to do to be ready: helpful if you find it hard to be organised

Features:

You can ask questions about your school day



If this was made, it would be important to think about:

- Keeping personal data secure
- Making sure the timetable data was accurate!
- Would you get into trouble if the tool said you didn't have PE, but then you did?

Creative expressions:

what happens with your work?

Your say: creative expression

(Before 15th December 2025)

Your teacher can scan and send your creative expressions to be seen by the team preparing a report for the Generative AI in Education Summit.

We will look for common themes and ideas in your creative work to include in the report.

We may make careful use of AI tools to help identify themes in the work: but work will not be used to train AI systems.

Selected work could be shared in our report to the Summit or as part of a showcase/gallery.

(Anytime)

You might like to make your own gallery of work and discuss what it tells you about attitudes to generative AI in education.



What happens next?

Recap

We have explored:

- What is AI and generative AI?
- How could generative AI be used in education
- What are some of the issues with generative AI
- Who makes decisions about AI in education
- What do you think about it?

What happens next?

If you completed the agree/disagree vote: your answers will be combined with hundreds of others, and shown to decision makers.

If your completed creative work is shared through the feedback platform by 15th December 2025 we will look for common themes and messages and will include these in a report shown to decision makers.

We will share an copy of the report findings with your teacher in early 2026.

What happens next?

Did you uncover strong views about generative AI in education in your group?

Think about who needs to hear these views. Have you got ways to share your views with them?

Remember: If anything in our discussion has left you worried, or you have concerns about online safety, talk to a responsible adult.

Thank you from Connected by Data & the Department for Education team



Agree/Disagree statements

Starting statements

- 1. Al tools for education should be officially checked and approved as safe, accurate and unbiased before they can be used, even if that means it takes longer for the latest models to be used in schools
- 2. Al should never replace face to face time with a teacher, even if Al might help a pupil learn information faster
- 3. Important exams should always be marked by a human, even if an Al marker would be fairer
- 4. It's fine if AI sometimes gives pupils incorrect information, as long as the terms and conditions say AI isn't always right
- 5. We should not place too many limits on the data that AI for education can use, so that AI can be as effective as possible

Starting statements

- 6. Sometimes students will have to use AI in the classroom, whether they want to or not
- 7. It's ok for AI tools to be addictive if they keep students focused on learning
- 8. AI tutors should never be able to have conversations with pupils about personal issues, like friendships or family problems
- 9. It's okay for an AI to sounds like it has feelings, even if we know it doesn't
- 10. If AI can help pupils pass exams, it doesn't matter if pupils are actually learning and understanding their lessons

Issue slides

Issues

- A Bias
- **B** Personalisation
- C Not thinking for ourselves
- **D** Accuracy
- E Personal data & privacy
- F Cost
 - **G** Environmental impact
- H Safety & reliance

A

What's the issue?

- AI model creators collect and select huge amounts of information and use this to 'train' an AI model.
- The information AI is trained on might come from large collections of scanned books, online message boards, and billions of photos and videos gathered from the Internet.
- Sometimes this information contains harmful ideas like racism or sexism, or it might not include enough information on particular cultures or languages. This is bias.
- The bias in the data going into AI models and in the way they are used can mean that the things that generative AI creates are biased too.

Bias: what do people say?

Educational tools can have safety filters built in so that they don't produce too much harmful content unless someone tries to go around the filter.

I think teachers should always look at what the AI makes and because AI is supposed to save them time they could use the spare time to fix any bias in what it creates.

I read that some AI marking tools give worse marks to people whose first language is not English.

I feel that the world is not fair, and Al just shows that back to us like a mirror. That is better than pretending bias isn't there.

> A teacher knows to avoid bias but when AI generates a worksheet with lots of small problems in, they might not spot them all.

Al tools might give people different advice or support just depending on their name - because the name is associated with a particular culture or gender. That's not fair!





Generative AI can be used to create custom learning resources such as lessons, worksheets, quizzes or AI tutors. These can be adapted based on information about particular students or groups of students.

- AI tools could be used to create resources that reflect student's interests: e.g. maths problems themed around football, pets or music.
- AI tools could be used to adapt lessons for children with Special Educational Needs and Disabilities (SEND).
- Interactive AI studybots could ask questions that are at just the right level of difficulty for each pupil.
- AI tools could be used to make a catch-up handout for lessons you might have missed.

Personalisation: what do people say?

It makes it quick for teachers to make lessons just right for the class.

If everyone gets their own Al-set tasks we don't get to learn as a group. I can't ask my friend for help - because their worksheet will be different from mine.

A teacher is still involved in deciding how to adapt a lesson, AI tools just give them suggestions specific to their students that they might not have thought of.

Al tools don't *really* know you. Even with lots of data, Al tools can't be as creative as our teachers in finding ways to spark our interest.

Al could give students feedback on their work right away: no waiting for the teacher. I feel like when I get feedback just for me, I can learn better.





When we use AI to answer questions, summarise something, or create something, we skip some of the thinking (cognition) we might have needed to do ourselves. This gets called 'cognitive offloading' and some people are worried about it.

- When teachers or students rely on AI to do work, they don't spend as much time thinking in detail about the content of the work.
- This may mean that they don't develop a full understanding of a topic. Over time, people will make less use of their own memory, problems-solving and creative skills.
- The brain is like any muscle: we have to use it to keep it strong!

Not thinking for ourselves: what do people say?



AI isn't there to replace thinking: just to support it. For example, I feel that if AI is taking notes for me then I can focus on listening to what is being said now.

We need to learn basic skills before we start relying on AI.

When young people use AI for research they don't develop critical thinking skills. I think using AI will make us lazy.

I don't feel like my teacher is spending time on me or my work any more – everything goes through the computer.

Teachers using AI to mark work can save time to use for other tasks.

When we can 'offload' some of our thinking to AI then we can focus on the important bits of learning. AI can break down tasks in ways that help us learn.





- Generative AI tools work by giving responses based on the next most probable word of a sentence, or pixel of an image. They do not have a concept of 'true' or 'false', even though it may feel that way.
- Generative AI models are trained to be convincing, so they can present false information in a very confident way. This is sometimes called 'hallucination'.
- It can be difficult for students (and teachers) to tell the difference between accurate information and falsehoods.
- Using wrong information generated by AI in learning resources or school work could lead to poor understanding or low marks.

Accuracy: what do people say?



Students should learn how to use AI by comparing its answers to information from trusted sources like textbooks or teachers.

If AI is not accurate and students can't trust what the AI says they might end up believing lots of things that are not true.

I've heard that AI tools are being updated all the time, and they are getting much better at being accurate.

I heard that generative AI does not 'know' the difference between what is true or not: the problem of hallucination is built-in and there is no easy way around it.

Checking the accuracy of AI output takes teachers and students time, which defeats the purpose of using the AI to save time.

We can't get away from Generative AI: we need to learn skills for using it well - and that means using it while we are at school and college.





To provide personalised feedback an AI tool needs information about you or your work.

- An AI tool to help write a school report might need access to lots of data from your work over the year, such as all your past marks.
- An AI marking app may send a copy of your work to the company providing the AI model that it uses.
- A personalised learning chatbot might store all the questions you ask it, and might learn a lot about you over time.
- Sometimes AI tools or models might want to use student work, chat logs, or records of responses you found helpful, to train new versions.

The rules set by many AI model companies don't allow use by children under 13, or require parent/quardian consent for use by anyone under 18.

Personal data & privacy: what do people say?



Good AI tools will have privacy rules that make sure data about students is kept secure. It should be up to the school to agree to the terms of use.

It's worth giving access to data about each student so that AI can provide personalised responses.

> If AI is trained with work from pupils and teachers, then AI models could become better at supporting education for all ages.

If someone else gets into my account they might find

out private information.

I'm worried that the AI model will have too much data about me.

> I have a right to privacy: it's not right for my personal data to be given to companies who might use it for their own profits.





- Many AI tools will cost the school money: they have to be paid for each month or year.
- This can take money from school budgets that could be spent on other things.
- Companies might suddenly put the price up.
- Some of the education AI tools used at school have paid-for versions for homework that families might feel under pressure to buy.
- Not everyone can afford to use AI tools at home.

Cost: what do people say?

AI tools at home and some can't.

School is about learning, not

money in future.

rely on AI tools that will cost us



AI tools might save much more money than they cost.

selling us on AI tools, or making us

Schools already buy in lots of different resources. I think they should be trusted to choose for themselves the AI tools that are the best value for money.



Some schools can afford access to the best AI tools, while others might not even be able to afford computers to be able to access free versions.

Training and using generative AI models and tools uses a lot of electricity and water, and the energy demand for this seems to be increasing all the time.

- Lots of new data centres are being built because of increased use of AI.
- These use a lot of electricity. Not all of it is coming from renewable sources.
- Many data centres also need a lot of water to cool down the computer chips that get very hot when they are used.
- Data centres are often built on land which animals or people could enjoy.

Environmental impact: what do people say?

I heard that AI tools are getting more efficient all the time, and the environmental impact will come down in the future.

We need to use less energy, not more, if we are going to address climate change. AI is making it harder to avoid bad environmental impacts.

Lots of things we do use energy. We can't ignore the opportunity of AI because of its power use. Using AI can use 10 times or more electricity than using a simple search engine, or looking something up in a book.



- AI models can sometimes generate harmful content.
 - A chat bot could say something offensive or encourage someone to do something that is wrong.
 - AI-generated materials might include things that are inappropriate for the age of the students and that scares or worries them.
- There are reports of people relying on AI in ways that get in the way of human relationships.
- Personal data given to an AI tool could be hacked or lost in a data breach.
- Most AI models have not been trained with child safety or wellbeing as a priority.

Safety & reliance: what do people say?



Most educational AI tools have filters that should stop most harms.

I'm worried my friends won't want to speak to me because they are talking to AI.

Most AI tools are used by the teacher, not the student - and so they can keep us safe.

I don't think AI tools are made with children in mind. They might say inappropriate things.





Attributions

Attributions

This resource was commissioned by the Department for Education, and written by <u>Connected by Data</u>, the campaign for communities to have a powerful say in decisions about data and AI.

Draft resources were reviewed for accuracy, balance and approach by: Beckett LeClair (5Rights Foundation), Florence Ackland (PSHE Association), Graham Tavener (Connected by Data Fellow, FE Lecturer), James Vincent (Bath Spa University), Jen Persson (Defend Digital Me), Jeni Tennison (Connected by Data), Louise Couceiro (Department of Education, University of Oxford), Melvin Riley (National Youth Technology Council), Rebecca Eynon (Oxford Internet Institute and Department of Education, University of Oxford), Sarah Turner (University College London), Tania Duarte (We and AI).

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