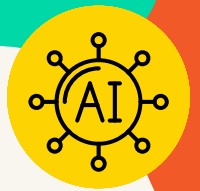


Lesson 4 - AI in Education



Lesson aims & overview

Aim

For children to understand how AI can be used in education and to explore their feelings and views about it.

CfE Experiences & Outcomes
LIT 2-02a; LIT 2-04a;
LIT 2-07a; LIT 2-14a
SOC 2-15a; SOC 2-16a;
TCH 2-01a;
TCH 2-13a.

In this session, the children will focus on the following four questions:

- ★ How is AI used in education?
- ★ What are the pros and cons of AI in education for children and their rights?
- ★ How do children feel about it?
- ★ Where and when should AI not be used in education?

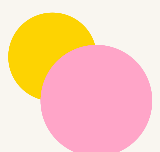
This session was planned to take approximately 90 minutes to deliver. All timings are approximate. The slides will help to guide you and the class through the content and activities.

Preparation for the lesson

Familiarise yourself with the session plan, the case studies and the slides. The four 'education case studies' are arranged two per A4 page for printing. They will need to be cut in half to share out before the lesson.

In this session your class will be working in small groups, so you might want to consider changing the classroom set-up and create space for group work on tables or the floor. You might also want to think how best to divide the children into groups and how much choice you want to give them when choosing a case study.

Before the lesson, reflect on any ways in which you and the children are already using AI in your school. What are the positive and negative aspects of it? Do you have any concerns about children's rights? Do you have any thoughts about how AI systems could support you in your role as a teacher with your tasks or teaching? Gathering the views and knowledge of colleagues may also help. These reflections will help you discuss real-life examples that are relevant to the children during the lesson. You may also want to begin by recapping the previous session with your class by rewatching the '*AI in our Lives*' video and asking the children if they can remember their star and their wish from the end of the lesson – something they felt positively about AI in their lives and something they felt should change.



Lesson 4 - AI in Education

Notes on content – AI and education

The following points may help you to navigate some of the issues that the children may raise or questions that they may have in relation to AI use in education.

- The rate at which AI technologies are developing means that guidance and regulation on their use can lag behind the technology itself. This can create issues for governments, local authorities, and schools themselves when deciding which AI systems are safe and reliable to use.
- When considering the use of AI systems in schools, encourage the children to think about their data and where it goes. For example, learning apps and games collect data on results – who would the children be happy with seeing this data? Their teacher? Their family? The company who developed the app? Third party companies or researchers?
- The majority of AI systems were not designed with children in mind as end users and AI systems have not typically been created by a diverse group of people. This carries risks that the needs and experiences of underrepresented groups, including children, are not taken into account.
- Children we worked with on the Exploring Children's Rights and AI project also highlighted neurodiversity as a factor that may impact how suitable AI tools are for all children.
- Children may already be using AI systems both in and out of school to help them with work. The use of apps like ChatGPT by children and young people raises various ethical questions which may come up. ChatGPT has obvious appeal for making work much easier, but it should be emphasised that it can produce text that is factually wrong and also inappropriate for children as the data it relies on is not always accurate and it was not designed for use by children. Overreliance on AI systems like this also risks children and young people missing opportunities to practice valuable skills like research and writing.

Lesson Slides: To access slides, click [here](#).

Resources needed:

- Slideshow (via link above)
- Pens
- A4 plain paper - 1 per child for the "What Kind of Learner am I?" activity
- 'Agree' and 'Disagree' signs (optional)
- A3 plain paper - 1 per child (if not available, a couple of A4 sheets stuck together per child can be used instead)
- Tape to hang up agree/ disagree signs
- Education case studies (see additional PDF files)



Introduction to AI in Education



Estimated completion time:
10 minutes

Display the lesson aim slide. Explain that today we will be exploring how AI is affecting our lives already, with a particular focus on how we use AI for learning and in education. We will also explore how we feel about it; the positive and negative sides of AI being used in education and how it impacts our rights.

Explain that before we start today's activities, we need to learn a little bit more about some of the ways that AI systems could be used by children or teachers in education. Explain that we're going to have a quick look at some examples.

Read the children the information on the slides about some of the different uses of AI in education:

1. **Personal Tutors**
2. **Augmented Reality in the Classroom**
3. **GenAI - ChatGPT**
4. **Learning Apps**

Allow the children a moment to briefly ask questions or add comments about each example. Explain that they will have more information about each of these available to them for the main activity that they will be doing later. Remind children that there are also lots of other ways that AI is or could be used in education, too.

Use the two slides on the UNCRC to ask the children to reflect quickly on why their children's rights are important to think about when we're thinking about the use of AI in school.

Helpful notes:

It is helpful to remind the children of the UNCRC & their rights periodically, to support them to think critically about AI use.

Main Activity – My Dream School



Estimated completion time:
60 minutes

Part 1 - What Kind of Learner are you? (10 MINUTES)

Ask the children to make themselves comfortable and to close their eyes if they like. Read them the following paragraphs:

Think about all the different places where you learn things. Remember, you don't just learn at school and learning isn't just about school subjects, it's about everything you discover about the world, other people and yourself that helps you to live a full and happy life.

Continued ...

Helpful notes:

Purpose: This activity gives the children a chance to reflect on their own way of learning and how they learn best. It also gets them thinking how they already use AI for their own learning and how they feel about it.

Lesson 4 - AI in Education

You learn things at home, outdoors, when you're playing with your friends, when you're on your own, when you're reading, when you're making things or trying things out, and even when you're just thinking to yourself.

Now think about what helps you to learn – and I mean you individually, we all have different preferences and different things that feel like they help us learn. Maybe you like to have somebody explain things to you in different ways, or maybe you prefer to read the information yourself. Maybe you find it helpful to have pictures or videos showing you things. Maybe you like to work with other people or maybe you find it easier to work on your own. Maybe you like to use technology to help you develop ideas, or maybe you prefer to write or draw sketches on paper. Some people like to learn outdoors. Perhaps you like to move around while you're thinking, or you need to have a still and quiet space. Some like to talk about something straight away to check they understand it, and some like to let the information sink in first and then come up with questions. Does any of this sound like you? Are there other ways that you like to learn? Are there particular spaces, activities, people, technologies, or resources that you find helpful? Try to imagine all of the things that would make the best possible learning environment for you.

End.

Give the children another 30 seconds or so to think and then ask them to open their eyes.

On a piece of paper, ask the children to quickly write down a list of the things that they thought about before they forget – anything that they feel helps them learn. Then ask the children to talk to the person next to them and compare their lists. Prompt them to think about similarities and differences between what they have written down and whether there are any ideas that they agree with and would like to add to their own lists. Ask the class if anyone would like to share something that helps them learn - take a few examples.

Part 2 - Research (20 MINUTES)

Display the slide listing the different examples of AI that can be used for education with the prompt questions.

Firstly, have a quick discussion as a class:

1. **Have you used AI for learning? What kind of AI did you use?**
2. **What do you like or dislike about using AI for learning?**

Helpful notes:

Purpose: This activity provides an opportunity to explore other ways that AI might be used in education in more depth and lets children reflect on their emotions and thoughts on these examples.

Lesson 4 - AI in Education

Explain to the children that today they are going to draw a design for their dream school – a place that has absolutely everything that helps them as an individual to learn best. They're going to use their lists to try to design an environment that ticks every one of those boxes! To begin with, we're going to do a bit of research on those examples of AI in education that we talked about at the beginning of the lesson by reading some more information about them and picking out the key points that could help.

Get the class into groups of 5+ children (there will need to be at least one child for each sheet of the information pack). Explain that the idea is that they are trying to decide whether any of these AI systems would be useful for their dream school. Hand out the information sheets – one pack per group – and ask them to share the sheets out so they have one each/one per pair if the groups are slightly larger. Ask the children to read the information and underline:

- Anything that tells you how the AI system helps children
- Anything that you like about that AI system
- Anything that links to something on your list of things that help you learn

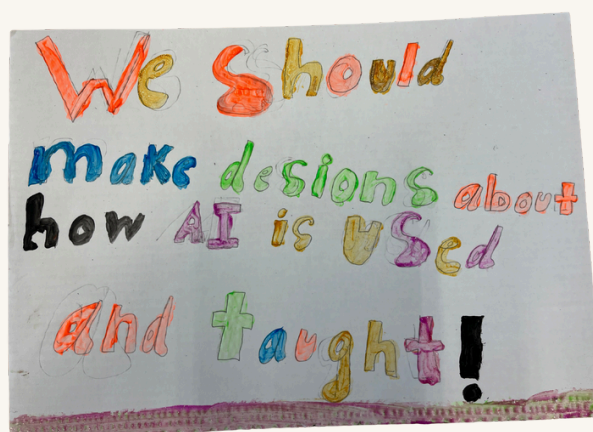
On the back of their sheet, ask the children to write down any other examples of AI systems that they think of that could help them learn.

When they have finished with their sheet, ask the children to go around their group and share what they have found out – how could this example of AI help children and do they think it would be useful in their dream school? The children can then spend a couple of minutes having a look at the other sheets to decide for themselves based on their own lists. Explain that they will keep these sheets on their table for the next part of the activity so they can refer to them while drawing their designs.

Helpful notes:

Question 1: It's fine if the children only reference the examples that have already been given earlier in the lesson. If the children suggest ChatGPT or AI assistants such as Snapchat's My AI*, remind the children that information provided by these kinds of AI systems is not always reliable so they should always double check.

*Apps such as Snapchat are likely to come up in conversations about AI with children. Though most social media apps are supposed to be restricted to 13+ years, we know that many children younger than that are using them. You should consider making time to discuss online safety more generally as a separate but connected issue alongside these lessons.



Part 3 - Designing your dream school (25 MINUTES)

Explain that the children will now have 25 minutes to design their dream school. Remind the children:

- **Their design should be based on their list of things that help them learn**
- **They can include AI systems but they don't have to**
- **The information about types of AI systems that can help with learning is on the tables for them to use**
- **They can also think about how their school would help all children to be happy, healthy and safe and make them feel included**

Children can draw their design however they would like – a bird's-eye-view plan or map would work well, but if they would prefer to draw a sketch of the whole school, a series of sketches showing different areas, or a combination of approaches that is also fine. If there are any children who do not want to draw, they could write a description instead. If available, provide the children with an A3 sheet of paper for this activity, or allow them to stick sheets of A4 together. Some children may also prefer to work in pairs. Give children a 5-minute warning when their time is nearly up and encourage them to add any labels or text that will help others understand what the different parts of their design are.

Part 4 - Exhibition (5 MINUTES)

Ask the children to leave the drawings on their desk and stand and push their chairs in. Explain that we are going to have an 'exhibition' now – a chance for everyone to move around the room and have a look at the dream schools we have all created. If anyone would rather not display their drawings they can either turn them face down or hand them to the teacher at this stage.

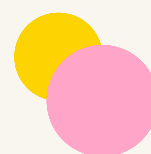
Helpful notes:

If it feels like any of the children's ideas for using AI are a bit fantastical, you may want to remind the children that AI cannot do everything and they need to think realistically about the types of task that AI is good at (i.e. anything that involves lots of data and replicating patterns). You may also remind children of the difference between AI and robotics here.

While the children work, make sure you speak to the children one to one to get a sense of the decisions that the children are making. If you notice that a notable number of children are not including AI, you might like to pause for a moment to have a quick class discussion to find out why. This isn't to suggest that they should or shouldn't include AI, but it is a helpful learning point to raise the question and invite the children to share their views.

Helpful notes:

If you have extra time, you can pause here to invite the children to share some of the features of their school with their class. This could be a good time to discuss where children have made a decision to include/exclude AI.



Final Reflection Activity – Agree or Disagree



Estimated completion time: 20 minutes

In this game, the children will be read a series of statements and will move to one side of the room or the other depending on how much they agree or disagree with the statement. Place A4 signs with 'Agree' and 'Disagree' written on them on opposite sides of the room, clearly visible.

Explain that you will be reading out some statements and that you want the children to position themselves near the sign that reflects their opinion on the statement. Children who feel that they neither agree or disagree with a statement can stay in the middle of the room. After the children have moved for each statement, ask some of them to explain their response. Encourage the children to discuss their differences and similarities on the statement in a respectful manner. There are no right or wrong answers and they should think for themselves. Give the children a chance to change their mind and position after each discussion. This activity works best when run at a brisk pace so that children do not lose attention. The first statement is to get children used to how the game works.

Statements to read out:

1. **Gaming is more fun than playing in the park.**
2. **I trust AI systems that are used in school / learning apps to be fair and safe.**
3. **AI helps all children with their learning.**
4. **Using AI for doing homework is cheating.**
5. **AI systems teach children better than teachers.**

At the end of the game thank the children for their contribution. Make clear that sometimes it is difficult to listen to other people's opinion but that discussing different views in a respectful manner is an important skill to have.

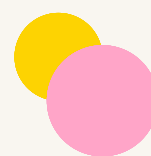
Helpful notes:

Purpose: The aim of this game is to give children a chance to express their opinions and views on different statements in relation to AI use in education. It challenges children to think about children's rights and to speak up and share their views. It also practises listening skills and respect for other people's opinion.

If you would like to spend a bit more time on this activity to get some deeper reflections you could gather the group's feedback on the activity and explore the issues they raised.

Please refer to the **notes on content** in the 'Preparation for the session' section above for additional context that can support the discussion here.

If you don't have much room to move about, you can think about an alternative way of playing the game. For example, sit down for disagreeing, stand up for agreeing and squatting if you're unsure.



Lesson 4 - AI in Education

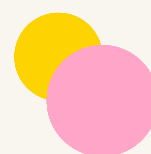
Finish the session with a final discussion about what the children have thought and felt about what they learnt today:

- What was your favourite part of your dream school design?
- How do you feel about AI being used in education? Any final thoughts? When might it be helpful but when should it not be used?
- Did you choose to include AI in your dream school? Why/why not?
- How might AI being used in education affect children's rights? Which rights might be affected?
- We thought about learning both in school and out of school today – what might affect whether or not children use AI out of school?
- How do you feel about the private companies that make these AI systems using data from when you use their tools – or even data that you have previously shared online for other purposes – to train their AI systems and make money?
- Which things do you want adults that are responsible for how AI is used in education (AI developers, Scottish Government, Local Council, teachers) to think about when using AI for learning purposes?
- Do you think children should have a say in how AI is used and what children learn about AI? Why, or why not?

Helpful notes:

Depending on the children's experiences, personalities and backgrounds, some children might find it more challenging to express their views. Some issues can be more emotive for some than for others. It is important that the children are mindful of this and reminded that nobody should be made to feel embarrassed for expressing an opinion.

The question regarding using AI out of school is included to highlight unequal access to AI technologies as a concern when considering its use for education.



Additional activities and resources

You may find the following useful to explore this session's themes in greater depth.

Activity 1 -The role of the teacher

This activity can help to further explore how AI might be used in education less directly – how it might be used to support children's education without the children themselves using the technology.

Ask the children in their groups to write down a list of all the different things that they think teachers have to do in their jobs (2-3 minutes to write their lists). Feedback as a group and discuss with you as a teacher.

Then ask the children to pick a couple of those tasks that they think AI could help teachers with and how they think it could help. Also let them think about which task they do not want AI to do. Give the children a couple of minutes to discuss in their groups and then feedback.

Activity 2 – Another Story about Charlie (see additional PDF file)

This activity can be used to support the children to explore their feelings about the use of adaptive learning apps, particularly in relation to fairness and autonomy.

Ask the class to listen carefully to the story (included as an additional resource in the teaching pack) and to think about how they would feel if they were Charlie. Read the story through and briefly discuss any questions or comments the children have.

Ask if the children can relate to the story and if they have had similar experiences at school or with learning apps. Let the children briefly share some examples.

Then ask the children to quickly speak for one minute to their neighbour about some ideas they would put on a list of pros and cons for Charlie's dad to take to the headteacher about using AI to help decide a child's reading level.

Once time is up, ask the children if they want to share a couple of their ideas and discuss their contributions. (For example, ask if others have the same point on their list or what their views on a raised pro or con is.)

Helpful notes:

Games the children may have used, like Sumdog, use the type of AI system described in the story for 'adaptive learning'.

Essentially, the algorithm makes judgements about a child's attainment level based on their performance and then increases or decreases the level of challenge. This story was written to reflect the views of children who took part in the *Exploring Children's Rights and AI* project, some of whom reported feeling frustrated or disheartened by these experiences as they did not feel the AI system was able to accurately reflect their level and felt their teachers were better placed to make these judgements. Other children found these features helpful.

