



I'm Daren. I have been a teacher for over 25 years and, as an educational technologist, I have extensive experience delivering training and coaching to pupils, teachers, and parents in all aspects of technology, including the application of Artificial Intelligence in education. I am also a parent, and grandparent.

I've written this guide to help you understand what Large Language Models (LLMs) are, what they can be used for, and how you can help your children use them safely and well.

What are Large Language Models?

Put simply, LLMs are computer programs that can understand and create human-like text. They learn from enormous amounts of text and code. This training helps them do things like:

- Answer questions
- Write stories, poems, or articles
- Translate between languages
- Summarise information
- Create different types of imaginative text

When we talk about an LLM, the 'model' is the computer program that has learnt patterns from looking at lots of language data.

How do LLMs work?

Imagine someone who has read every book, article, and website in a huge library. They learn how words fit together in sentences, see different writing styles, and understand how to answer questions based on what they have read. LLMs work in a similar way, but they process much more information and do it much faster.

Here's a simple explanation:

1. **Training Data:** LLMs are 'trained' using huge amounts of text found online.
2. **Learning Patterns:** They learn how words and phrases often appear together.
3. **Creating Text:** When you give an LLM a request (a 'prompt'), it uses the patterns it has learned to create new text that makes sense following your request.

Different Types and Versions of LLMs

LLMs come in different types (models) and versions. Each one has different abilities and is designed for different jobs. Think about different kinds of cars: some are fast, some carry heavy things, and others use less fuel. LLMs are also built with different strengths. Choosing the right LLM is like choosing the right tool for a specific task. Sometimes it is obvious which one to use, other times it might take some experimenting. If you are not sure, you can ask the LLM what it is good at.

Key Differences:

- **Size:** Larger models, trained on more data, often perform better but need more computer power. Smaller models can be quicker and work well for simpler tasks, sometimes called "mini" models. More powerful models for complex tasks might have "advanced reasoning" in their name.
- **Specialisation:** Some LLMs are designed for particular tasks, like writing computer code, creating stories, or answering medical questions. Others are more general. For research tasks, a Deep Research LLM model might be best, as it can search the web for up-to-date information and check its sources. For specialised areas like medicine or law, an LLM trained specifically on that subject is better.
- **Updates:** Like computer software, LLMs are regularly updated. Newer versions are often more accurate, have fewer biases, and include new features.
- **Access:** Some LLMs are free to use, while others need a subscription or have limits on use.

What This Means for Usage:

- For simple things like summarising text, a smaller, faster model may be enough.
- For difficult tasks like writing detailed technical reports, a larger, more powerful model is usually needed.
- For tasks needing expert knowledge (like medical advice), it is best to use an LLM trained for that specific area.
- For finding current information, an LLM that can search the web is useful.

Things for Parents to Consider:

- Be aware that the different LLM tools your child uses might have different capabilities and safety settings.
- It is important to check the details of each tool and choose ones suitable for your child's age and what they need it for.

Benefits and Risks of LLMs

Like any tool, LLMs can be used in helpful or harmful ways. They can help with learning and creativity, but could also be used to spread false information or create harmful content. We need to understand both the good and the bad sides. People with good intentions can use LLMs to improve education and communication, while others might use them for bad purposes. So, being careful, learning about them, and having rules for ethical use are important.

Benefits:

- **Learning Help:** LLMs can act like a personal tutor, answering questions and explaining tricky subjects. However, it's vital that a person checks the information is accurate and right for the child's age.

- **Creativity:** LLMs can help children be creative with writing, storytelling, or even generating images. Again, someone should check the results for suitability and originality.
- **Saving Time:** LLMs can help with tasks like summarising notes or translating text. It's important to check the LLM's work for accuracy.
- **Accessibility:** LLMs can help students with learning difficulties, perhaps by reading text aloud or simplifying language. Human oversight is needed to make sure this help is effective.

Risks:

- **Misinformation:** LLMs can sometimes create information that is wrong or misleading. Always double-check information from an LLM using reliable sources.
- **Bias:** LLMs learn from text data, and if that data contains biases (unfair views), the LLM might repeat them. Human review is needed to spot and reduce these biases.
- **Plagiarism:** Children might be tempted to use LLM output and pretend it is their own work. Parents and teachers need to stress the importance of doing their own work. *Note: AI detection tools are often unreliable and can wrongly identify human writing as AI-generated, or vice versa. Exam boards and some schools may give children clear guidance on the extent to which AI may be used in assignments to ensure they learn to develop key future-ready skills whilst maintaining the integrity of their own work.*
- **Over-reliance:** Relying too much on LLMs might stop children developing their own thinking and writing skills. LLMs should be tools to help thinking, not replace it.
- **Inappropriate Content:** LLMs might sometimes produce content that is offensive, harmful, or not suitable for children. Supervision and using safety filters are important.
- **Privacy:** Using LLMs might involve sharing data. Be careful about protecting children's personal information.
- **Age Limits:** Some LLM tools have age restrictions. Parents should know these limits and ensure children use age-appropriate tools. Children might not always be truthful about their age online, so adult oversight is necessary. Schools may have controls, but access outside school can be easier.

Reducing Risks and Making the Most of Benefits

How to Reduce Risks:

- **Supervision:** Keep an eye on how your child uses LLMs, especially younger children.
- **Critical Thinking:** Teach your child to question the information LLMs provide and check it with reliable sources.
- **Original Work:** Emphasise that LLMs are tools to help, not to do the work for them.
- **Privacy Settings:** Check the privacy settings on LLM tools and your home internet connection.
- **Safety Filters:** Use any available content filters or safety settings, but know they might need checking.
- **Talk Openly:** Have honest chats with your child about using LLMs safely and responsibly.
- **Learn Yourself:** Keep up-to-date with LLM technology. Try using them yourself.

How to Maximise Benefits:

- **Encourage Exploration:** Let your child explore how LLMs can be used for learning and creative projects.
- **Use as a Tool:** Teach them to use LLMs to improve their own skills, not avoid using them.

- **Effective Prompts:** Help your child learn how to ask LLMs questions (write prompts) clearly to get better results. (See examples below).
- **Balance:** Encourage using LLMs alongside traditional ways of learning.
- **Real-World Use:** Help them use LLMs for real tasks or projects.

An LLM Use Checklist for Parents: **'SAFEGUARD'**

- **S**upervise usage, especially for younger children.
- **A**ge-appropriate tools: Check and respect age limits.
- **F**oster critical thinking: Teach evaluation of LLM output.
- **E**ncourage originality: Value their own work.
- **G**uidance is key: Set clear rules and ethical guidelines.
- **U**nderstand the risks: Be aware of potential problems.
- **A**lways validate: Double-check information.
- **R**eport concerns: Know how to flag issues.
- **D**iscuss openly: Keep talking about LLMs with your child.

Crafting Prompts: Getting Good Results from LLMs

There are two main ways to talk to an LLM:

1. **Iterative Prompting (Step-by-Step):**

- This is like having a conversation. You start with a simple request, see what the LLM says, and then adjust your request based on the response. You keep going back and forth until you get what you want.
- It's useful when you are exploring an idea or are not quite sure what the final result should look like. It's flexible.

2. **Structured Prompting (Clear Instructions):**

- Here, you give the LLM a very detailed instruction right at the start. You explain exactly what you want, maybe give examples, and specify the format for the answer.
- The goal is to be very clear to avoid confusion and get a focused answer quickly.
- It works well when you know exactly what you need. It requires more planning initially but can be faster overall.

In short, iterative prompting is like chatting to shape an idea, while structured prompting is like giving precise directions. Which method is best depends on the task.

A Useful Prompt Structure:

Including these four parts in your prompt can help get better results from an LLM (they don't have to be in this exact order):

- **Persona:** Tell the LLM *who* it should act as (e.g., a friendly tutor, an expert scientist).
- **Task:** Tell the LLM *what* you want it to do (e.g., explain a topic, summarise text, write a story).
- **Context:** Give the LLM background information (e.g., who the explanation is for, what the story is about).
- **Format:** Tell the LLM *how* you want the answer presented (e.g., in simple terms, as bullet points, with examples).

Example Prompts for Parents:

- **Prompt 1: (Maths homework help)**

You are a friendly and patient tutor. Explain the topic of ratios to a Year 8 child who is struggling with their maths homework. Explain in simple terms, with examples, and then provide 3 practice questions with answers.

Here's an example of what you might expect as an output

- Explanation: "Ratios show how two quantities relate. If you have 8 apples and 6 oranges, the ratio of apples to oranges is 8:6, which can be simplified to 4:3."
- Examples: "If a cake recipe uses 2 cups of flour and 1 cup of sugar, the ratio of flour to sugar is 2:1."
- Practice Questions:
 1. "In a class, there are 12 boys and 18 girls. What is the ratio of boys to girls?" (Answer: 2:3)
 2. "A shop sells 5 red shirts for every 3 blue shirts. What is the ratio of red shirts to blue shirts?" (Answer: 5:3)
 3. "If you mix 100ml of juice with 150ml of water, what is the ratio of juice to water?" (Answer: 2:3)

- **Prompt 2: (Suggesting improvements to a piece of writing)**

You are an experienced English teacher. Help improve a creative writing piece. The child has written a short story for a school assignment, and needs help with plot development and character dialogue. Provide specific feedback on the plot and dialogue, suggest improvements, and offer 2-3 alternative ideas.

Example Output:

- Feedback on Plot: "The plot is interesting, but the pacing could be improved. The beginning is a bit slow. Consider introducing the main conflict earlier."
- Feedback on Dialogue: "The dialogue is a bit generic. Try to give each character a distinct voice. For example, the villain could have a more formal way of speaking."
- Improvements: "To improve the pacing, try adding a scene where the protagonist faces an early challenge. To make the dialogue more engaging, think about each character's background and personality when writing their lines."
- Alternative Ideas:
 1. "Instead of starting with the protagonist at home, begin with them already on their adventure, facing an initial obstacle."
 2. "Give the villain a more sympathetic motivation to create more complex conflict."

Prompt 3: (explaining a scientific concept)

You are an enthusiastic Science teacher. Explain the water cycle to a Year 6 child who is learning about it in their science class. Use a step-by-step explanation with a diagram, and suggest a simple experiment the child can do at home to demonstrate one part of the cycle.

Example Output:

- Explanation:

1. "Evaporation: The sun heats up water in lakes, rivers, and oceans, and turns it into vapor (a gas) that rises into the air."
2. "Condensation: As the water vapor rises, it cools down and turns back into tiny liquid droplets, forming clouds."
3. "Precipitation: When the clouds get full of water droplets, they fall back to Earth as rain, snow, or hail."
4. "Collection: The water that falls on the ground collects in rivers, lakes, and oceans, and the cycle starts again."

- Diagram: You may need to search for an example



- Experiment: "You can show evaporation at home! Fill a clear dish with water, mark the water level, and leave it in a sunny place. Over a few days, you'll see the water level go down as it evaporates."