Generative AI and RE: saint or sinner?

It has now been more than three years since Chat-GPT3 burst onto the scene in November 2021 and started the public awareness of generative artificial intelligence (G-AI). Since then, there has been a huge amount of hype about this technology, some of this very positive in terms of workload reduction, ease of working and changing the nature of teaching, some very negative around the end of teachers, schools and classrooms as we know them. As so often, the reality lies somewhere between these extremes and G-AI is more of a frenemy than a friend or foe.

What is it?

The 'GPT' in Chat-GPT stands for 'Generative Pre-training Transformer.' This is a type of large language model (LLM) and lies at the heart of generative AI as opposed to normal AI, which has been around since Alan Turing in the 1950s. An LLM is a form of AI that is capable of recognising and generating text output and is training on a large amount of data (often billions of items). It works on the principles of machine learning and gives the impression of natural language models; hence the 'chat' analogy, rather than the response of a search engine – you can have a conversation with a G-AI engine. This idea of a conversation is essential to the successful use of G-AI. You are not looking for an instant answer but entering into a dialogue with the technology (see the section below on prompt engineering).

Since the release of Chat-GPT3, there have been rapid advances in G-AI models and it is now appearing in many areas – the Department of Education is investing in the development of training data for G-AI lesson planning and development, both with its subsidiary Oak and also in wider investment.[1]

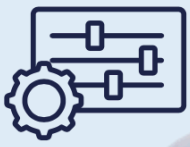
Prompt engineering

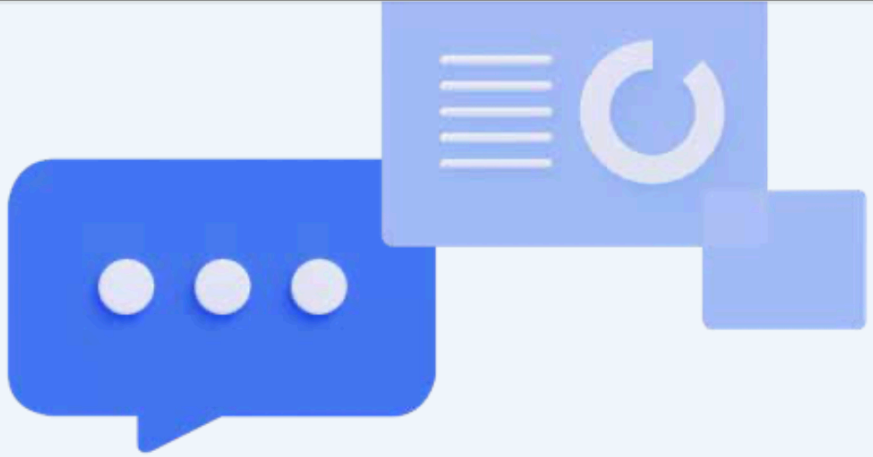
So, you have opened up one of the G-AI applications like Chat-GPT, Gemini, Claude or many others. This article focuses on the text applications rather than the video or image ones, though these also have potential for teachers.

Unlike a search engine, this is not about finding an existing resource, although that may be part of this, but about developing resources or undertaking tasks. A core skill that you need to develop is that of prompt engineering. This is the practice of crafting questions and inputs to elicit better and more desirable outcomes from the data set (LLM) that the G-AI application is drawing on. It might be that you are contributing by adding data to the LLM. Prompt engineering is a crucial skill for working with G-AI applications.

A model for using G-AI: the Prep Model

I have developed a four-stage model for using G-AI, as can be seen below.

P	It's not a search engine so think about how you are crafting your queries or **prompts** – think more natural language.	
R	**Refine** and tease out your ideas or your prompts to make sure you are getting what you want.	
E	Dig deeper and question – challenge– develop – **explore**...	
P	**Proof** / Check the answers / ideas against your own knowledge and experiences and also remember that it can be wrong or make errors.	



Scan the QR code to help Paul with his research by answering some questions about G-AI

Scan the QR code for further examples on getting started with G-AI

The **refine** section of this is the use of prompt engineering. Using G-AI should save time, but like many technologies there is a learning and practice curve that takes time before the technology becomes useful.

Three areas to consider as a teacher to get you started in using G-AI

To see how the following areas work, look at the full transcripts (and further examples) at **mmiweb.org.uk/gaiandre**

Information seeking

While G-AI is not the same as a search engine, the 'chat' or narrative approach means you can use it to gather, and refine, information. A series of prompts might be:

- 'Tell me about birth rites in Judaism'
- 'Can you refine this for Orthodox Judaism'
- 'Simplify this for use with children aged 11-13'

Report writing

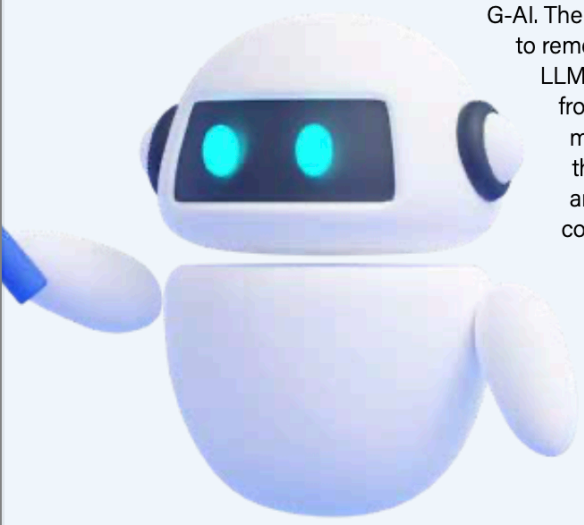
The generation of reports can be done quickly and easily from a series of statements as the input, and can turn them into a more narrative and natural format. This can include both personal and statement data.

Resource creation

The use of short, focused formative assessment is an important part of teaching and learning – but the creation of, for example, multiple-choice questionnaires can be very time-consuming. G-AI is quick and efficient at this.

Ethical practice?

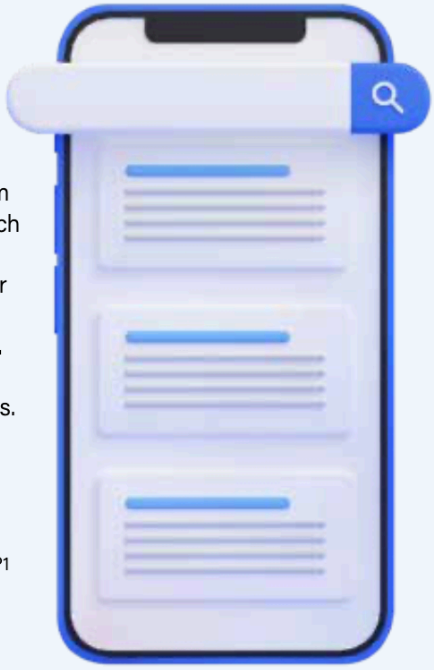
There are of course questions about students using G-AI and passing this off as their own work, but there are also some wider ethical questions to consider when you are using G-AI. The first of this is to remember that the LLMs are drawn from existing data, much of this from the existing web, and thus they come with bias based on this data – this may be stereotypes about religions or believers, or about the bases of moral or ethical questions. The data that most LLMs are trained on is digital and WEIRD (Western, educated, industrialised, rich and democratic). There are important questions about copyright and intellectual property rights – whose data is being 'scraped' or 'harvested' – and the quality of the outputs.



Where do I go from here?

There are lots of other things that are possible with G-AI, depending on the application you are using, and new ones are emerging all the time. So, you need to go away and play … there is no substitute for using the technology and seeing what it can or cannot do. Try the ideas above to look at different things that you might be able to do. Also consider how you can use the technology to do the things you do not like doing, not to replace the things that give you pleasure. For some that would be report writing and to some degree assessment – for you it might be different things!

If you are at **Strictly RE** in Birmingham on 25 January I will be running a session on G-AI and RE. Do come along, or if you are unable to make the session catch me during the day with any questions you might have. I am also undertaking some research in this area and would be grateful if you could share your thoughts and/or experiences about G-AI by going to **forms.gle/hcLHL3QBcabMLfVx6** and answering some questions. This should only take about 10 minutes. ■



NOTE

1 For more details, visit shorturl.at/SjSP1

Paul Hopkins has been working in RE and technology for over 30 years – he remembers floppy discs! He has worked in the primary, secondary and tertiary sectors as well as an advisor, inspector, researcher, Initial Teacher Education tutor and consultant.