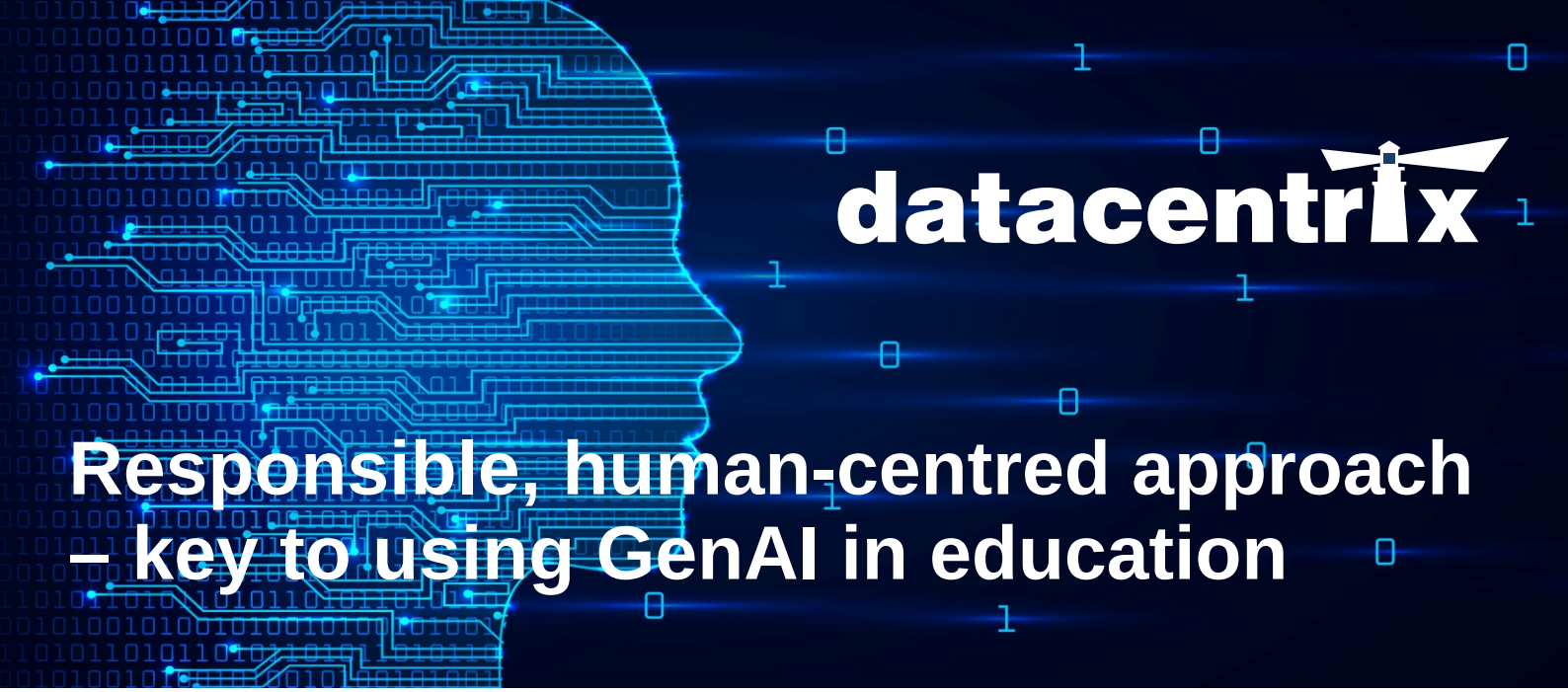

Responsible, human-centred approach – key to using GenAI in education

By Shakeel Jhazbhay, General Manager, Digital Business Solutions at Datacentrix

In the ever-evolving realm of educational technology, Generative AI (GenAI) is emerging as a transformative force poised to reshape the education sector. However, exploring the benefits and drawbacks of GenAI is crucial for a comprehensive grasp of its suitable applications and potential impact.

In retrospect: the use of technology in education over time

In order to gain context around the use of GenAI in education, it's important to look back in history at the use of technology in previous times to support students and educators.

Consider the use of scientific calculators for class work, for instance. In the 1970s, the belief was that sums must be done using pen and paper or we'd risk reducing people's ability to make their own calculations, and there was serious push back from the education sector at the time to ban these devices from the classroom. Fast forward to today, and we now all have calculators at our fingertips on our smart phones, and the risk of people becoming less educated because of technology has been mitigated by its widespread accessibility. A scientific calculator is even a pre-requisite for many advanced Math and Science courses.

When examining GenAI in the same way, we know that students are already using apps like ChatGPT to help with homework or to summarise information. This is not an uncommon scenario and has happened before; the internet gave learners much broader access to data and to so many more sources, views and opinions than in the past, whilst also opening the door for students to use this information either to learn, or on the flipside, to cheat.

Thus, today's discussion around GenAI is basically the same. That is, the latest technology can and should be used to support students and help them to save time, but it must be used in the correct way, with the appropriate safeguards.

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What are the limitations to using GenAI in education?

GenAI is not perfect in its accuracy and the output it produces, and herein lies risk. The fundamental basis of ChatGPT is that it has essentially consumed the internet – all opinions, all YouTube videos and any freely-available information – but this does not mean that the output is factual or accurate.

In some ways, GenAI can actually hamper the fact-gathering process, as it presents its results as reality, regardless of whether they are correct or not. This is called 'hallucination'. There are many instances where “facts have been hallucinated or fabricated by ChatGPT, meaning that it has become more difficult than ever for students to distinguish fact from fiction.

Using GenAI responsibly

It's vital that education continues to foster critical thinking in its students. Consequently, gathering and assessing data from a variety of different sources and opinions for accuracy and bias remain essential steps.

For example, just as students were encouraged to read through information online and then use it to form their own opinions on a topic (instead of just cutting and pasting it from the web), the same theory of ethics must be applied to the use of GenAI.

There must always be human input in order for this to be an ethical process, and this comes down to how the information, and the new format in which it is available, is used by students and governed through the use of specialised tooling and new processes for educators.

For example, using GenAI in a more responsible way, prompting it for peer-reviewed, scientifically proven research on a topic, students can then apply critical thinking, assessing the information provided and scrutinising data sources, instead of assuming that potentially inaccurate or biased information represents the full truth.

Are there other functions for GenAI in education?
Where AI, in terms of the broader gamut of the technology, can be extremely powerful and opens doors for different communities is around the translation of materials into different languages, or by using analytics to really understand a student's learning style and performance.

Here, education institutions would be able to assess whether a particular student benefits from visual learning, or whether they gain more from repeated information, and adapt teaching practices on the fly. This applies to special needs or neurodiverse students too, where teaching methods could be personalised, for example by using visual learning in virtual reality for non-verbal students.

Assessments could also become more adaptive to gauge understanding at a granular level, meaning that they could be paced depending on the number of correct answers provided by the student. This would be helpful in comprehending where information within a class has landed and 'stuck', and where it hasn't, adapting teaching methods or content accordingly.

Furthermore, there's the question of using AI to grade papers in future. The technology behind AI, natural language understanding and neural networks, could help to streamline this time-consuming marking process. However, it will obviously require a huge amount of trust in AI and algorithms and so a gradual adoption process, with significant testing at every stage, would be needed, and it should be viewed with a healthy level of scepticism to ensure the right levels of control.

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Another interesting area of the use of AI in education is through virtual reality (VR) and augmented reality (AR). For instance, the requirement for physical experiments in science education involves the purchase of chemicals and laboratory equipment. A more cost-effective and convenient option here could be the use of a VR environment to simulate these experiments, which could potentially allow for broader access to this type of education.

Wrapping up
It's safe to say that while ChatGPT has helped to bring this type of technology into public consciousness, AI is much broader than just GenAI, and there are so many areas within this new technology that it can have a potentially helpful – or sometimes a harmful – impact on education.

Strict governance and controls are necessary to avoid unintentional consequences, which will require the industry to come together and effectively plan as to how to address these present and future risks, whilst reaping the benefits for learners and educators alike.

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