

What are the effects of AI and machine learning on education in SA?

By [Adam Fairall](#)

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With all the hype around ChatGPT and GPT-3 as a disruption to learning, what can we as South African educators do to make sense of this new age of AI and machine learning?

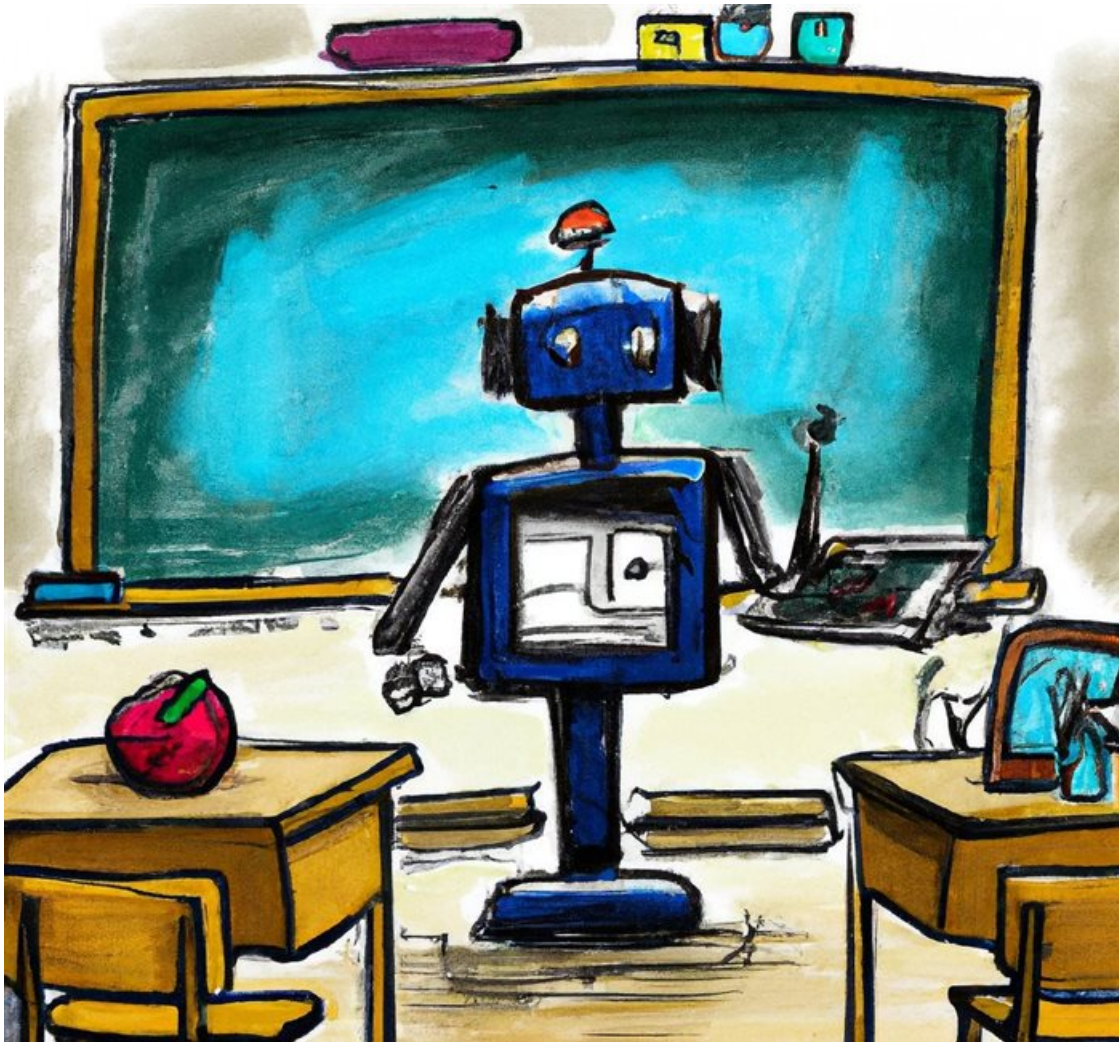


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The first imperative for South Africans is to embrace this new and radical disruption to both education and the workplace. Teachers and schools cannot simply ignore or block access to these systems that have been let loose on our students. There is no way to block or mitigate this kind of technology, nor is this an attitude that should be adopted in education. We must, as learning specialists, accept and make use of this new and exciting opportunity.

Embracing the opportunities

Artificial learning gives students and teachers of the future many new opportunities. If used correctly, it decreases the time it takes to prepare lessons by 80%. This gives teachers more of an opportunity to assist students with learning barriers and to deliver better lessons. It also opens many new higher-order thinking opportunities for students, presenting the opportunity for students to really think creatively when delivering work and solving problems in classroom environments.

Teachers and students have been through a huge amount of growth digitally in South Africa over the last few years.

Navigating our way through the pandemic has made us far more receptive to the implementation of digital tools in the classroom space.



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By actively engaging AI, both preparation and learning can be quicker and more efficient in the long run. It does however mean that traditional forms of take-home assessments like essays are no longer viable. Instead, we as teachers need to think more flexibly about how we plan on assessing students. Machine Learning will force students to become more practical, being assessed not on their knowledge but rather on their understanding of a concept on how well it is practically applied to solve problems.

Practical applications for machine learning

From the teacher's perspective, lesson plans can be created digitally in minutes using ChatGPT. An example of this could be the prompt: "Act as a Geography teacher and create a lesson on wet and dry adiabatic lapse rates for 14-year-olds." This can then be honed in and specific curricula could be referred to or particular learning outcomes fine-tuned and deliverables could be discussed.

From the perspective of a student, they could be given a writing task where ChatGPT could be used to write the introduction for a literature essay on *Macbeth* by William Shakespeare. The students could critically analyse this introduction and comment on language elements and contextualisation of the text in relation to the story.

Students can be assessed on their application of what they have learnt rather than baseline knowledge of a concept. Knowledge will be assumed, and this is a potential pitfall that both students and educators should guard against.



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Future-forward tools for learning

Along with the more famous ChatGPT, there are other tools such as DALL.E 2, an image generation tool. Using natural language, the AI gives you an image based on the type and style of instruction.

There is also an organisation launching an instructional design tool called NOLEJ.AI, specifically for educational

institutions. This tool turns videos, PDFs or URLs into fully compiled lessons that can be shared directly with students as a form of baseline assessment.

More time spent applying knowledge

All in all, AI and machine learning will free up both educators and students from the administrative functions of learning, allowing them to think more creatively, diversely, and ultimately spend more time applying knowledge rather than wasting costly teaching time with administrative functions.

As always, with new technology comes pitfalls and shortcomings. A balanced approach of trust and self- diligence is advised. We don't yet have the long-term experience to fully measure the effects and benefits of machine learning in education. At the end of the day, even a well-oiled, intricate machine is no substitute for a good teacher, or an eager student.

ABOUT THE AUTHOR

Adam Fairall, College Teacher, Department of English & History, Reddam House Atlantic Seaboard

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