## Brave New Words: How Al Will Revolutionize Education – review

In **Brave New Words**, **Salman Khan** argues that educators should harness AI's potential to transform learning through personalised tutoring services like his own platform, Khanmigo. Although Khan's book lacks an examination of how the broader spectrum of generative AI could disrupt education practices, he presents a captivating vision for how it can be used to enhance teaching and assessments and complement traditional classroom experiences, writes **Jon Cardoso-Silva**.

Salman Khan will speak about the book at an event with LSE's Data Science Institute on Wednesday 26 June 2024. Find details on how to attend.

Brave New Words: How AI Will Revolutionize Education (and Why That's a Good Thing). Salman Khan. Allen Lane. 2024.

## Brave New Words

How AI Will Revolutionize Education (and Why That's a Good Thing) ☆

Salman Khan

Imagine having a personal tutor available 24/7 to help you

master any topic or skill. This expert, attuned to your unique learning style and pace, wouldn't just answer your questions. They would proactively contact you with personalised, thought-provoking questions to help you better understand complex subjects or boost your creativity by nudging you to connect seemingly disconnected

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ideas. These are some of the ways in which AI can shape the future of education that Salman Khan enthusiastically describes in his latest book, *Brave New World: How AI will Revolutionize Education (and Why That's a Good Thing)*, released in May 2024.

Salman Khan, the founder and CEO of the renowned free online learning platform Khan Academy, shares his journey of experimenting with OpenAl's most advanced large language models (LLM) in the summer of 2022. He had early access to <u>GPT-4 models</u> even before the meteoric success of OpenAl's public launch of ChatGPT in November of that year, which then ran on the less capable yet still quite impressive <u>GPT-3 model</u>. Khan and his team had more time than the general public to address and counteract the LLM-based chatbot's tendency to provide inaccurate or completely made-up, non-factual responses to queries. This was a significant concern, especially because the team wanted to use it to build a tool to support learning. Khan's team implemented safeguards until they could trust the Al enough to behave appropriately, resulting in the "Al-infused education platform", Khanmigo.

With Khanmigo, real historical and fictional literary figures can come 'to life', allowing learners to inquire about their motives or ideas in a natural, conversational way. Khanmigo typically does not provide direct answers but instead uses a Socratic style of questioning to help students get to the answers themselves

The book presents Khanmigo as an example of the future of education. With Khanmigo, real historical and fictional literary figures can come "to life", allowing learners to inquire about their motives or ideas in a natural, conversational way. Khanmigo typically does not provide direct answers but instead uses a Socratic style of questioning to help students get to the answers themselves, encouraging them to be "better thinkers". Under this paradigm, we are also shown how an AI can evaluate students' knowledge and work directly with them to improve their weaknesses, offering instant feedback and closing the feedback loop more rapidly than traditional assessment methods.

Al can also support teachers and parents as they help students. Khan explains how Al could be used to create custom teaching materials based on feedback gathered by the Al from students' comprehension of concepts. It could also help develop strategies to support students in situations where teachers may not have detected a lack of understanding. That is not to say that the traditional way of learning in classrooms is to

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be dismissed. Throughout the book, Khan is eager to reinforce the importance of in-class activities in conventional teaching environments. It will remain a valuable learning experience for students to receive guidance from their (human) teacher and collaborate with their peers. In fact, he suggests this might be the key to minimising concerns around academic misconduct. If, rather than policing and restricting their use of AI, we were to provide students with reliable and productive-for-learning AI tools, students would feel better supported and more motivated to learn and perhaps less inclined to cheat. Even assessments could change to resemble more of a dynamic conversation than a test. They could involve role-playing or simulation, giving students better chances to build evidence for their learning.

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This glimpse of the future sounds promising, and I do share the enthusiasm. However, when I consider the different ways in which AI is becoming part of our daily lives, I start to worry that this vision alone does not fully encompass all the ways in which AI will end up revolutionising education. For Khan's vision to be effective, at least in traditional teaching institutions, all involved parties (students, teachers, parents, administrators) must adopt and actively use the same AI-powered platforms. This would require educational institutions to centralise their learning activities on a single platform or ensure that everyone uses tools with the same essential safeguards that support learning and provide accurate responses. "Hallucination" (or *bullshit-generation*), the tendency of GenAI tools to generate text with false information, is a feature of the current LLM paradigm, not a bug. Everyone building AI tools on top of the foundational general-purpose AI models will have to add their own safeguards, but they might not align with our learning purposes. If we are not careful when integrating more general-purpose AI tools in our teaching, our students may inadvertently skip critical stages of the learning process and perform worse.

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Various AI tools are being integrated into our operating systems, popular search engines, and office suite applications and are becoming heavily embedded into our smartphones. This might become yet another justification for embracing more AI in education. It is true, as Khan also points out, that when today's school and college students enter the workplace, they will be expected to know how to work alongside AI. Those who do not will face a disadvantage. However, as there are significant variations among the different AI products, we do a disservice if we do not teach students to question their AI tutors critically. The book touches on AI literacy and the more significant societal implications of the extensive adoption of AI systems, but it almost only goes there to reiterate the need to incorporate AI in education. I would like to have seen more reflection on how external GenAI tools, not built with education in mind, could disrupt the practices in education, for better or worse.

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Still, Khan's positive outlook on the potential of current generative AI technologies to enhance teaching, learning, and assessment practices is inspiring. It signposts a good and responsible way of using AI in the context of education and opens up new possibilities for educators to empower their teaching practices.

PS: While writing this piece, I had Grammarly's Generative AI writing aid tool enabled. The tool helped me to second-guess everything I wrote and made me spend a lot more time than I thought I would, but in the end, I was glad that the final result still had my voice. I still don't know if writing with an AI assistant will gradually improve my independent writing skills as I learn from the AI suggestions or if my default will eventually be to dump disconnected ideas onto the blank page and ask the AI to "improve it" into a coherent piece. Even this paragraph was revised by the AI.

**Note:** This review gives the views of the author and not the position of the LSE Review of Books blog, nor of the London School of Economics and Political Science.

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