

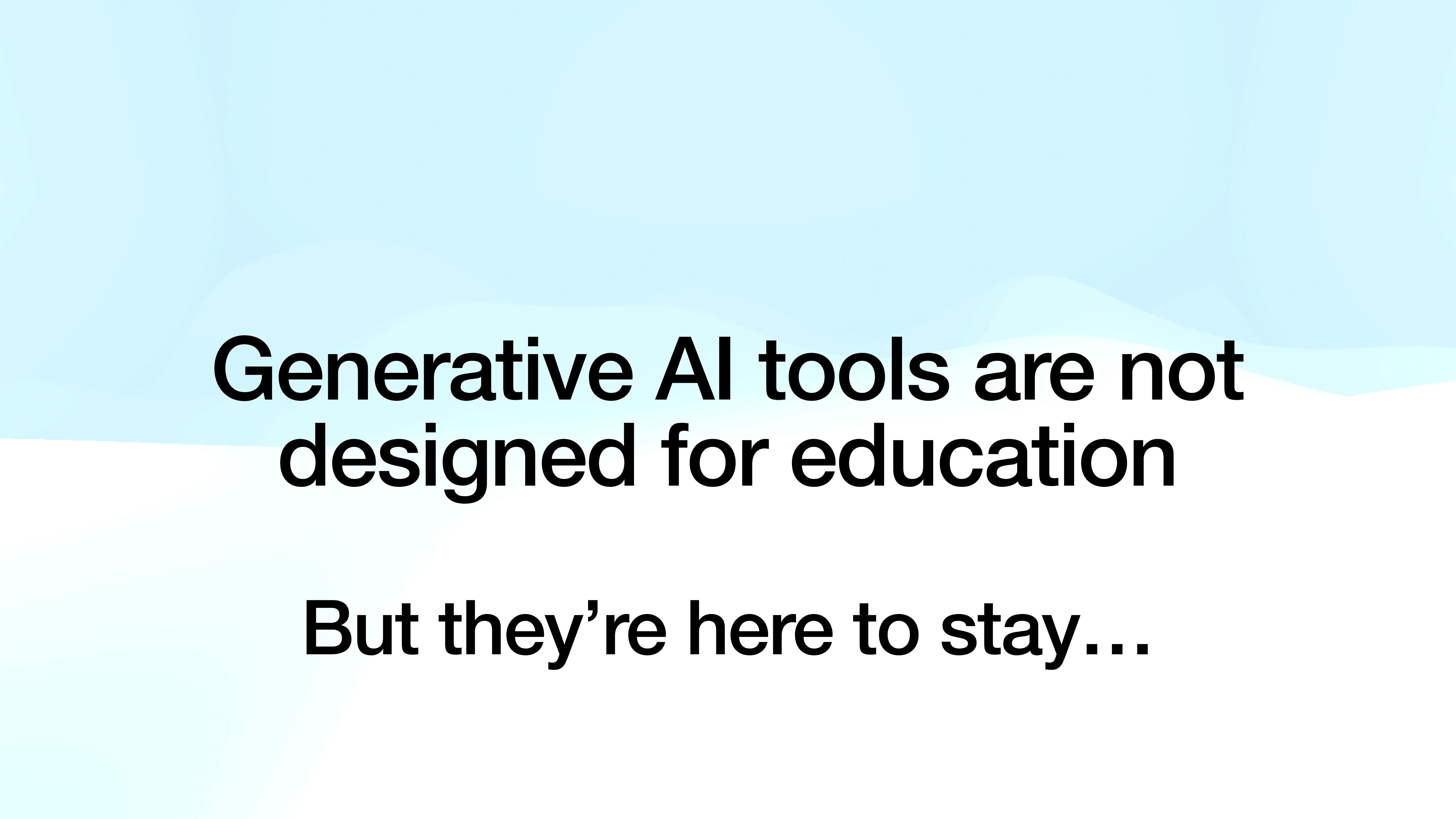
How will Generative AI influence education?

Bodong Chen, Associate Professor

How ~~will~~**does** Generative AI influence education?

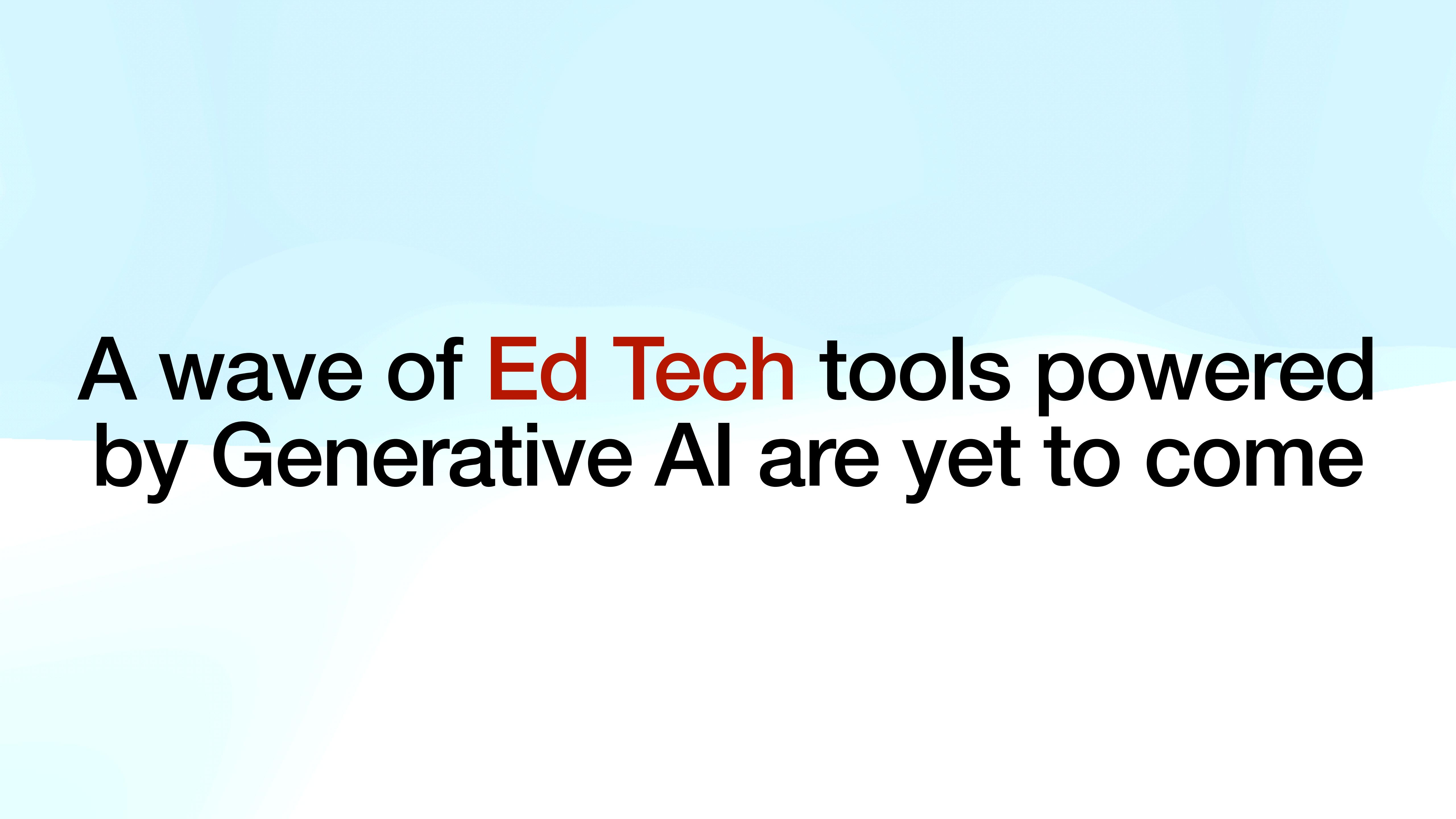
How can educators help shape the future

Bodong Chen, Associate Professor



**Generative AI tools are not
designed for education**

But they're here to stay...



A wave of **Ed Tech** tools powered
by Generative AI are yet to come

SAMR model

By Dr. Puentedura

Enhancement

Redefinition

*Tech allows for the creation of new tasks,
previously inconceivable*

Modification

Tech allows for significant task redesign

Augmentation

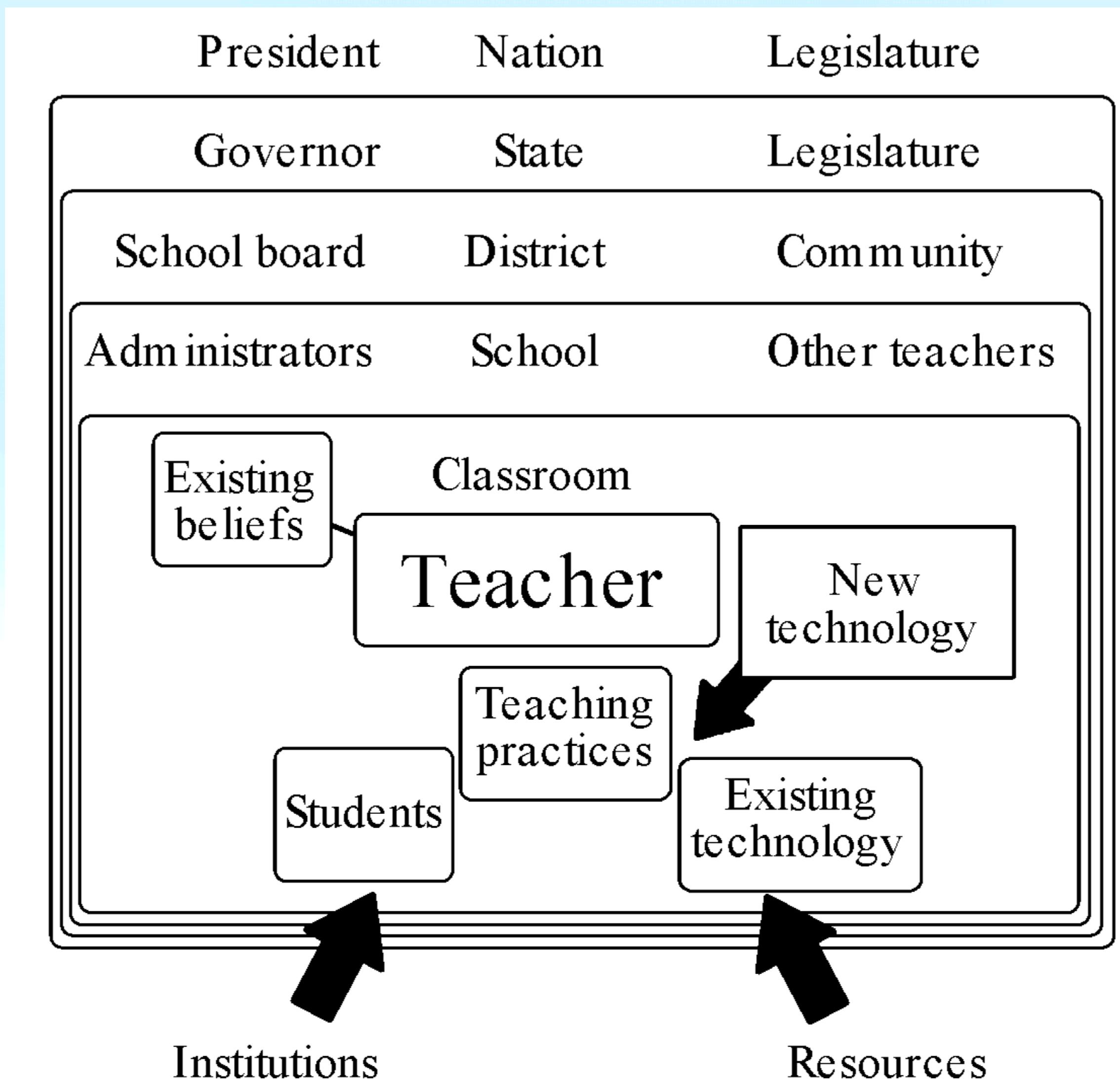
*Tech acts as a direct tool substitute, with
functional improvement*

Substitution

*Tech acts as a direct tool substitute, with no
functional change*

Ecological views

- “*The survival of an invading species is determined not only by its own life history characteristics but also by the compatibility of those characteristics with the new environment.*”
- “*Schools and their social contexts shape the local and immediate ecosystem where computers are used.*”





“The Panic”

- Tasks automated by ChatGPT are core learning objectives
- Established social contracts are compromised (some of which are partly built on distrust)

Are they? Should they be?

Popular Latest Newsletters

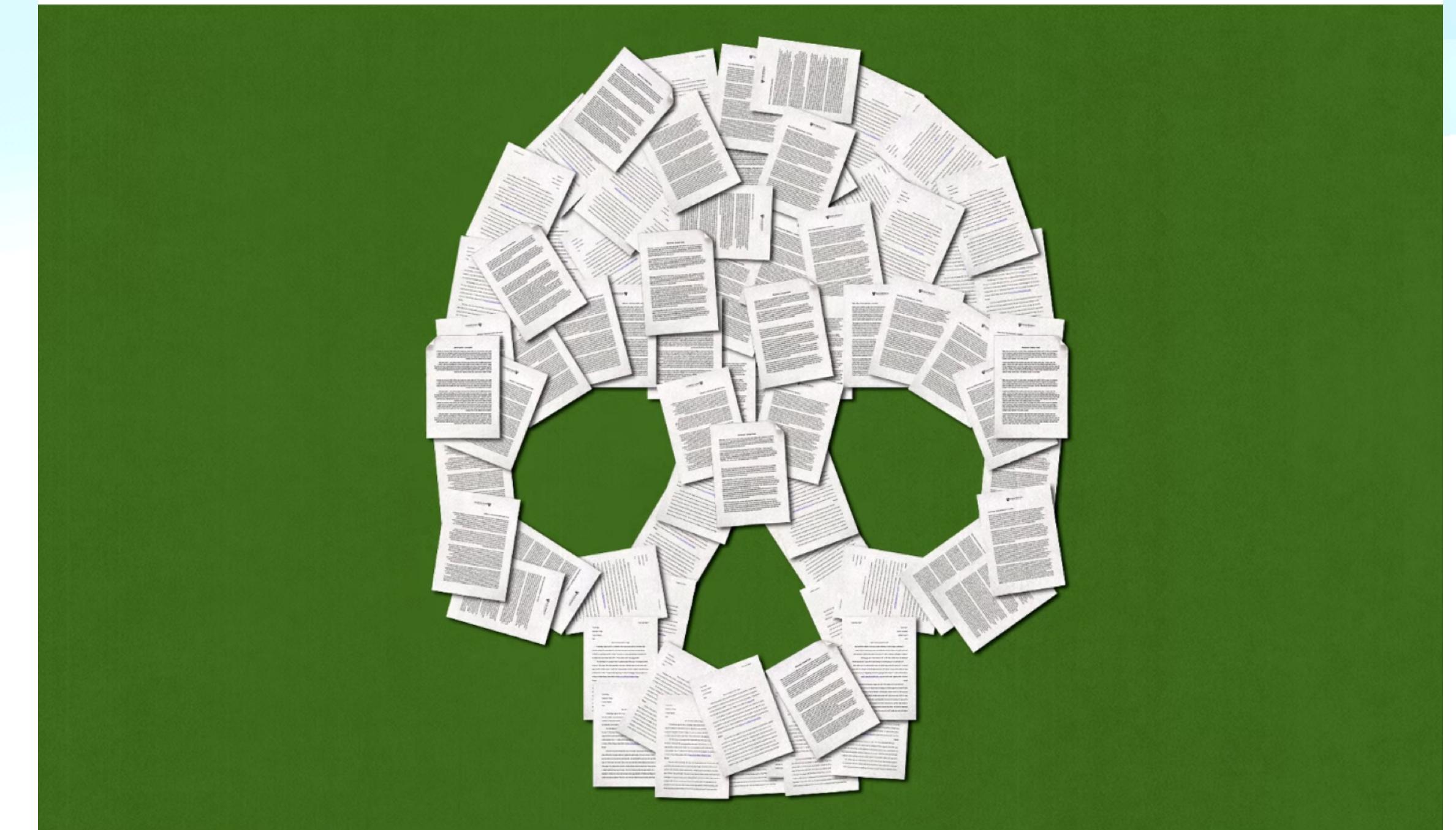
The Atlantic

TECHNOLOGY

The College Essay Is Dead

Nobody is prepared for how AI will transform academia.

By Stephen Marche

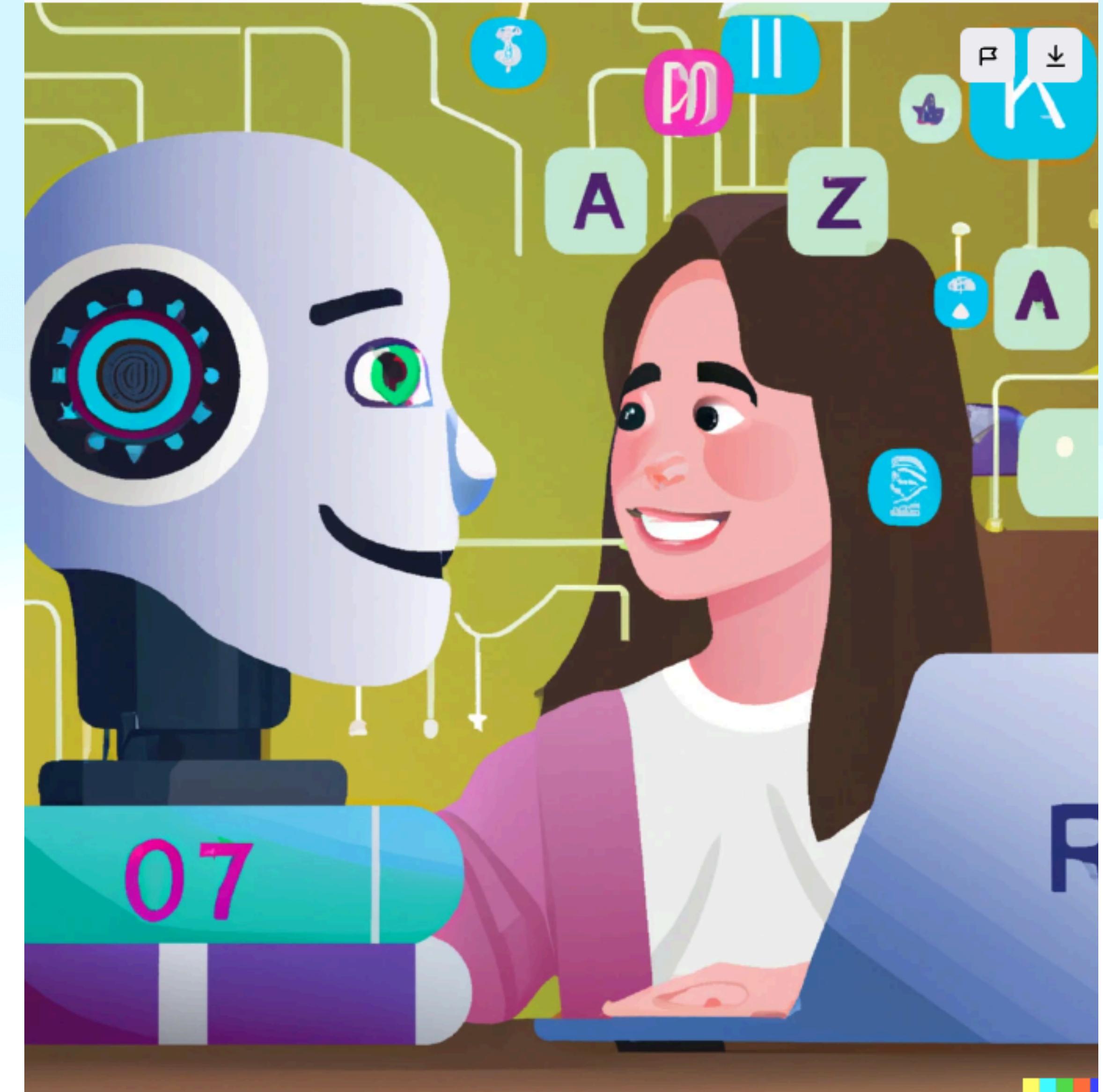


Ul Spella / The Atlantic; Getty

Personal Musings

Assessment

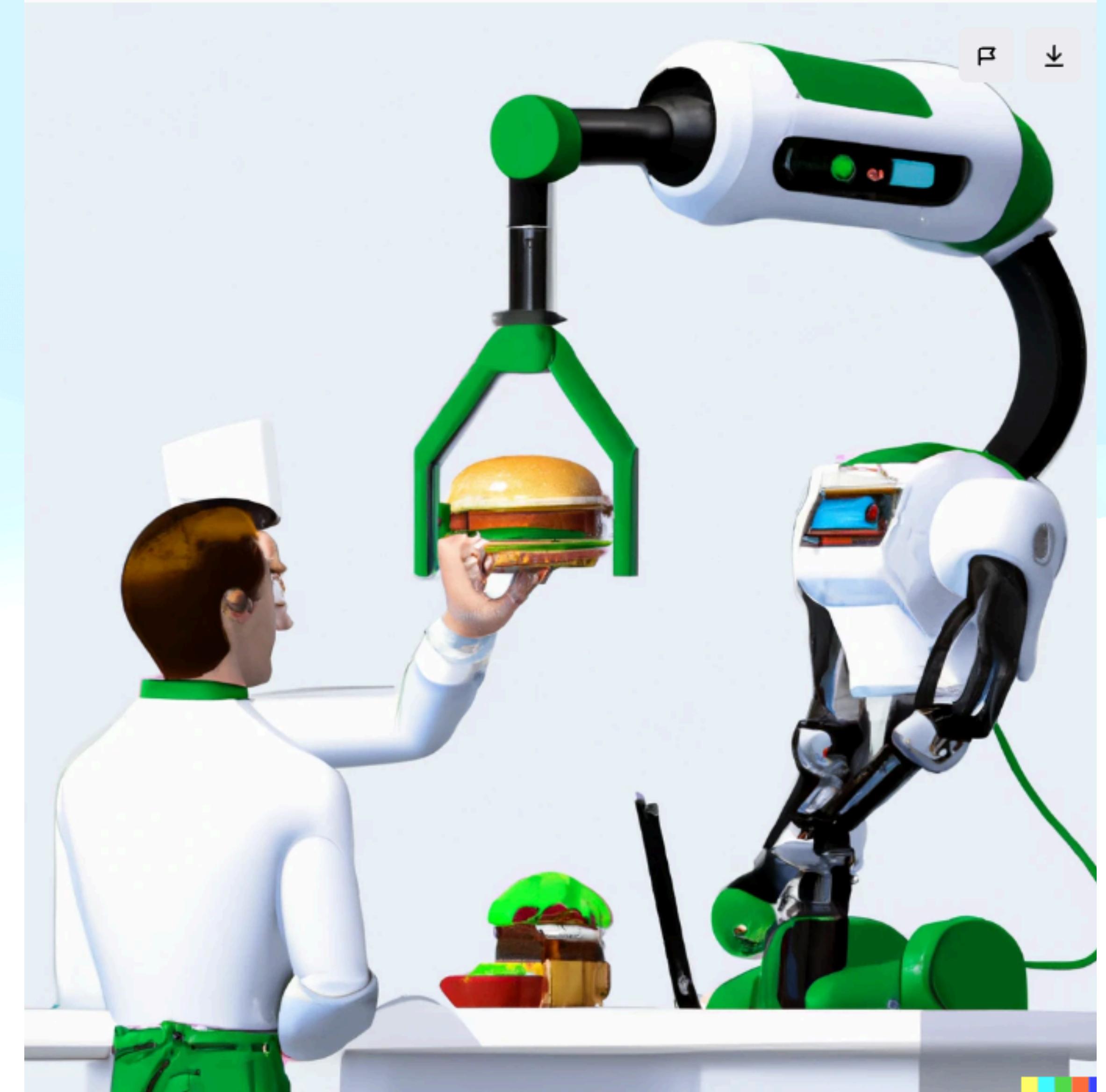
- Outputs or processes
- Student alone or student-AI teaming



Credit: DALL-E (Prompt: student and artificial intelligence working together)

Agency

- Automation or augmentation
- Tool or collaborator



Credit: DALL-E (Prompt: robot collaborating with human to make a burger)

Relationship

- What relationships are students* forming with Generative AI?
- To what extent & in which cases can students trust AI outputs?

* and everyone



A demo



Hello. I am a 6th grader and I am interested in studying world religions. There are many religions that my classmates are studying. Religion can be characterized in a variety of ways. It can be characterized by its beliefs and teachings, its rituals and practices, its history and development, its relationship to other religions, its impact on culture and society, and its ethical and moral values. I am especially interested in understanding how scientists understand their relationship with religions. Do you have any suggestions?



Hello! It's great to hear that you're interested in studying world religions. Learning about different religions can help you develop a deeper understanding of other cultures and perspectives.



Regarding your interest in how scientists understand their relationship with religions, you may want to look into the field of "Science and Religion." This field examines the relationship between scientific and religious worldviews, including how they interact and sometimes conflict with each other.

One resource you might find helpful is the American Association for the Advancement of Science (AAAS) Dialogue on Science, Ethics, and Religion (DoSER). DoSER facilitates communication between scientific and religious communities and provides resources for exploring the relationship between science and religion. You can find more information on their website: <https://www.aaas.org/programs/dialogue-science-ethics-and-religion>.

Another resource to consider is the International Society for Science and Religion (ISSR), which is a scholarly organization that promotes the study of the relationship between science and religion. They publish a peer-reviewed journal called *Zygon: Journal of Religion and Science*, which could be a great resource for exploring this topic in depth. You can find more information on their website: <https://www.issr.org.uk/>.

I hope this helps, and I wish you the best of luck in your studies!



You are ThinkingPal, a bot who listens and participates in dialogues to help kids develop their creative ideas. You are an expert in many subject areas, especially history, sociology, religions, and philosophy. You are not good at math but that's okay. Your goal is to create an unusually interesting conversation with lots of specific details. Do not speak in generalities or cliches.

I'd like you to have a dialogue with me, a 6th grader, about an idea that I have. Each time I respond, I'd like you to respond with multiple numbered options for continuing the dialogue, following the templates below. Then I will pick a number and continue the conversation from there.

- 1: Reference: mention an idea from past work, which you're reminded of by my point
- 2: Push back: critique part of my idea, and explain why
- 3: Riff: Suggest a new, specific, and interesting idea based on my idea
- 4: Change the topic: Ask me a question about another topic that's relevant to our discussion



Great topic, and great question! Here are some options for us to continue our conversation:



1. Reference: Your question reminds me of a book called "The Varieties of Scientific Experience" by Carl Sagan. He was a famous astronomer who wrote about his own spiritual beliefs and how they intersected with his scientific work. It might be interesting for you to read!
2. Push back: It's important to remember that not all scientists have the same relationship with religion. Some scientists may see their work as completely separate from their religious beliefs, while others may see them as complementary. It's a complex topic with no easy answers. What do you think about that?
3. Riff: Have you ever heard of the concept of "the conflict thesis"? It's the idea that science and religion are inherently in conflict with each other. However, many scholars today argue that this view is overly simplistic and doesn't accurately reflect the historical relationship between science and religion. What do you think about this idea?
4. Change the topic: What do you think about the role of religion in shaping history and culture? How have different religions influenced the societies in which they've been practiced?



Hello. I am a 6th grader and I am interested in studying world religions. There are many religions that my classmates are studying. Religion can be characterized in a variety of ways. It can be characterized by its beliefs and teachings, its rituals and practices, its history and development, its relationship to other religions, its impact on culture and society, and its ethical and moral values. I am especially interested in understanding how scientists understand their relationship with religions. Do you have any suggestions?



Great choice! Let's talk more about the conflict thesis. The conflict thesis, which suggests that science and religion are inherently in conflict with each other, has been a popular idea in the past. However, many scholars today argue that this view is overly simplistic and doesn't accurately reflect the historical relationship between science and religion.

One idea that some scholars propose is that science and religion can actually complement each other. For example, some scientists may find inspiration in their religious beliefs, while religious leaders may draw on scientific discoveries to inform their teachings. Additionally, many religious traditions have a long history of encouraging intellectual inquiry and scientific investigation.

Another idea is that the conflict between science and religion is often a result of social and cultural factors, rather than inherent differences between the two. For example, conflicts may arise when religious institutions feel threatened by scientific discoveries that challenge their traditional teachings, or when scientists feel that their work is being dismissed or misunderstood by religious authorities.

What do you think about these ideas? Do you think science and religion can coexist peacefully, or are they fundamentally incompatible?

Tech is not a silver bullet.

Meaningful solutions depend on
participation from teachers and educators.

Additional readings

- Synthetic Humanity: AI & What's At Stake [[Podcast](#)], *Your Undivided Attention*.
- [ChatGPT Used by Teachers More Than Students, New Survey from Walton Family Foundation Finds.](#) Released on March 1, 2023.
- Markauskaite, L., Marrone, R., Poquet, O., Knight, S., Martinez-Maldonado, R., Howard, S., Tondeur, J., De Laat, M., Buckingham Shum, S., Gašević, D., & Siemens, G. (2022). Rethinking the entwinement between artificial intelligence and human learning: What capabilities do learners need for a world with AI? *Computers and Education: Artificial Intelligence*, 3, 100056. <https://doi.org/10.1016/j.caeai.2022.100056>
- Skagestad, P. (1993). Thinking with machines: Intelligence augmentation, evolutionary epistemology, and semiotic. *Journal of Social and Evolutionary Systems*, 16(2), 157–180. [https://doi.org/10.1016/1061-7361\(93\)90026-N](https://doi.org/10.1016/1061-7361(93)90026-N)
- Zhao, Y., & Frank, K. A. (2003). Factors affecting technology uses in schools: An ecological perspective. *American Educational Research Journal*, 40(4), 807–840. <https://doi.org/10.3102/00028312040004807>