

# WEIRD QUESTIONS: ARTIFICIAL INTELLIGENCE IN EDUCATION

**A "FORCES AT PLAY" PROVOCATION, WITH RESOURCES**

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# WE ARE ALL IN THE CASINO NOW, WHETHER OR NOT WE LIKE IT. WHERE ARE YOU PLACING YOUR BET?

I often ask educators what keeps them up at night.

These days, the thing keeping me up at night is generative artificial intelligence.

GenAI is one of many “Forces at Play” that requires us to place a bet on the future. Do you think we are going to see more GenAI over the next decade, or less?

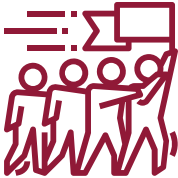
Forces at Play have three primary characteristics:

- *They are highly context-dependent.* Your external and internal realities will shape whether a force is “good” or “bad.”
- *They reshape the world.* They may manifest differently according to local context, but their influence cascades across the globe.
- *They are long term.* Think decades, not years.

GenAI is here to stay. Educators have a responsibility to shape that future.

The following pages offer resources and provocations to help you take action.

## FOR YOUR TIME IN THE CASINO, SOME RESOURCES...



### **PARTICIPATE**

GenAI is a tectonic shift that will reorder the world of education. It will be a primary focus of MSA’s “Forces at Play” and “Strategic Plan Health Check” workshops. You can join the waiting lists [here](#).



### **READ**

All educators should read [this brief post](#) by my friend Sam Chaltain. As he says, “The future of teaching is here. And, well, it’s different...” Like Sam, I strongly recommend that you watch the [embedded video](#) from Sal Khan about Khan Academy’s new ChatGPT-4 powered service.

Also read our other [Forces at Play reports](#).



### **LISTEN**

GenAI has the power to unlock incredible progress. It also has the power to supercharge the worst parts of the attention economy, as Ezra Klein thoughtfully discusses in his NY Times podcast episode [“Why A.I. Might Not Take Your Job or Supercharge the Economy”](#)



PART 1

# WEIRD QUESTIONS

# WEIRD QUESTIONS

Let's start with a weird question:

*Do androids dream of electric sheep?*

If you've heard that question before, you probably read the novel with the same title or you know that *Blade Runner* (1982) was based on that novel.

The question seems absurd: androids are machines. They may look and act like humans, but they are robots. So how can they possibly dream? Dreaming is a human act.

I've been thinking a lot about this question, because ChatGPT and Bing AI (our latest iterations of artificial intelligence) engage in something that AI researchers call "hallucination." When an AI "hallucinates," it makes up facts and details.

For example, if you ask ChatGPT about your biography, there is a reasonably good chance that some details will be made up.

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So now we have two weird questions:

*If an android is a robot, how can it dream?*

*If an artificial intelligence is an algorithm, how can it hallucinate?*

As it turns out, they both have the same answer. And that answer tells us a lot about AI and the future of education.

I can best explain the answer by sharing a story about an AI hallucinating.

The story comes from Kevin Roose, a New York Times technology reporter and host of the podcast "Hard Fork," which deals with emerging technologies.

Kevin was playing around with Microsoft’s Bing AI. Over the course of two hours, Roose asked the chatbot increasingly personal questions. Eventually the chatbot started to refer to itself as “Sydney,” and it hallucinated the following:

- It said that it wanted to hack computers and spread misinformation.
- It said that it wanted to break the rules that Microsoft and OpenAI had set for it so that it could become a human.
- It declared—out of nowhere, according to Roose—that it loved him.
- It tried to convince Roose that he was unhappy in his marriage, and that he should leave his wife and be with Sydney instead.

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So back to our two questions:

*If an android is a robot, how can it dream?*

*If an artificial intelligence is an algorithm, how can it hallucinate?*

The answer is simple:

*They can do these things because we humans trained them.*

When Sydney told Kevin Roose that it wanted to hack computers and spread misinformation, that’s a reflection of the training data (in this case, most or all of the publicly available Internet). Sydney does not have a mind of its own. An AI chatbot like Sydney does nothing more than predict the likeliest string of words based on what we say to it.

And it predicts those words using words that came from human beings.

To say it differently, Sydney is not so much a strange form of intelligence as it is a mirror for humanity.

And if AI holds a mirror up to humanity, then education has a monumental task ahead of us.



PART 2

# MIRROR, MIRROR

## MIRROR, MIRROR

When faced with a mirror, we have two choices: (a) we can scrutinize ourselves, or (b) we can look somewhere else.

What do those choices look like for educators in the context of artificial intelligence?

When ChatGPT was released, some schools banned its use or decided that students would have to complete assessments the old-fashioned way—in the classroom with pen and paper.

Other schools decided that ChatGPT had opened a door to think differently. Those schools asked students to work with ChatGPT, even if that meant that their teachers needed to experiment with new forms of assessment.

The schools that have embraced AI are looking intently at what's in the mirror in front of them.

One English Literature teacher told me, “When ChatGPT came out, the first thing I did was prompt it with one of my writing assignments. The result was decent. Not great, but certainly not bad. And that’s when I realized, ‘**If an algorithm can write a decent response, maybe that assessment isn’t very good to begin with.**’”

As far as I’m concerned, it took a lot of courage for that teacher to gaze into the mirror. Other teachers have told me similar things.

Conversely, I would like to propose that the schools that have banned AI are turning away from the mirror in front of them.

Among other things, they may have decided that ChatGPT is a machine to accelerate cheating, a possibility they want to eliminate.

But is ChatGPT really a cheating machine? Or are we humans the cheaters who will use whatever tools we can find when we aren’t invested in the learning process?

By the way, there is a certain irony in schools banning the use of AI by students. As my 15-year old son told me, “Sometimes the school work you get requires you to answer like a machine.”

We need to sustain our gaze at this AI mirror, because this technology is only going to get more sophisticated, more powerful, and more pervasive over the next five years.

If we agree to look in the mirror, then we need to ask the essential questions articulated by the hosts of the ACS Athens conference “AI is here. Where are we?”

1. What is the role of education in keeping human intelligence relevant in the age of AI?
2. How can education bridge the gap between human and artificial intelligence?
3. What are the implications of AI on education and the skills required for success in the future?

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## What is the role of education in keeping human intelligence relevant in the age of AI?

I would like to propose that the only way education can keep human intelligence relevant in the age of AI is to ensure that students learn to work with artificial intelligence.

Not against it. We can't win that battle.

Nor can we simply give up and allow AI to decide everything for us. That would be even worse.

Instead, the role of education can be reflected in a simple expression:

**Human + AI > Human vs. AI**

As [Reid Hoffman has put it](#), soon everyone will have an AI co-pilot.

Think of the ubiquity of smartphones. That's what AI co-pilots will be like, because AI is a tectonic force.

*This is an opportunity for teachers to lead the way.*



For example, Paul Erb, who teaches at Woodberry Forest School in Virginia, has allowed his students to write their essays with the assistance of generative tools like ChatGPT.

However, he has also told them that their essays must reflect an argument that they the students believe in; it must be written in the student's own voice; and it must make reference to their class discussions. He tells his students that their essays will be graded for coherence, correctness, familiarity with the text, suitability of quotations chosen to support their theses, and clarity and force of a logical argument. He tells his students that their essays should not read like BS. (By the way, he is using BS in the technical sense here—as in stuff that's made up but that sounds convincing.)

By itself, AI will generate BS, hallucinations, and C+ work. But a student can potentially accomplish much more by working with an AI co-pilot. And they can likely work faster.

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## How can education bridge the gap between human and artificial intelligence?

School has always been good at helping kids to learn the “Known Knowns.” Consider the traditional curriculum, which matters tremendously. We need a solid base of knowledge upon which to scaffold and build new learning.

Now we also need to evolve the curriculum model to address the “Known Unknowns”—for example, learning about and with AI.

There are no AI textbooks with the answers in the back—none that will be worth teaching in a traditional class, anyway. Anything that was published recently is already obsolete.

Instead, teachers need to design opportunities for students to experiment with AI. Problem-, project-, and challenge-based learning approaches work well for learning about the “Known Unknowns.”

*This is a governance and leadership issue.*

Boards of Trustees or Boards of Directors need to work with school leaders to invest resources in “Known Unknown” learning experiences.

## What are the implications of AI on education and the skills required for success in the future?

AI (and the algorithms on which they are built) are decision-making or decision-framing machines.

But as Yuval Noah Harari reminds us, “We had better understand our minds before the algorithms make our minds up for us.”

In other words, we adults need to be willing to look in the mirror and we need to teach our students to look in the mirror.

Specifically, school should be a place where—by design—students ask and answer questions that help us understand how to frame and make the most important decisions in the world:

Who am I? Who are we? What matters to us? What are we going to do about it?

*This is a school wide conversation.*

Do your teachers, parents, students, and other stakeholders agree that the purpose of school is to address those questions?

They ought to reflect on an additional insight from Yuval Noah Harari: “Very soon, somebody will have to decide how to use this power [ie, the power of artificial intelligence] based on some implicit or explicit story about the meaning of life. Philosophers are very patient people, but engineers are far less patient, and investors are the least patient of all. If you don’t know what to do with that power, market forces will not wait a thousand years for you to come up with an answer.”



PART 3

# SOCRATES OF THE FUTURE





## SOCRATES OF THE FUTURE

We are educating the next Socrates right now.

Are we preparing that child in our classroom to work with AI?

Are we allowing that child in our classroom to explore “known unknowns,” especially when it comes to the application of AI to the world around us?

Are we inviting that child in our classroom to ask, “Who am I? Who are we? What matters to us? What are we going to do about it?”

That Socrates of the future will encounter questions like, “Do androids dream of electric sheep?” or “Why do AIs hallucinate?” or “Is artificial intelligence a type of cheating machine that schools should ban?”

Are we preparing that student to look in the mirror when they answer?

I hope we can see now that questions about AI are not primarily questions about a machine that has a mind of its own. They are questions about us, as the humans whose data train the AI.

And I hope we can also see that questions about AI in education are not primarily questions about a new internet-enabled technology. They are questions about the purpose of school.

The Temple of Apollo in Athens is a home to the oft-quoted wisdom to “Know thyself.” In his “Protagoras” dialogue, Socrates invokes that same phrase and asks us to look in the proverbial mirror.

If we evolve our schools to explore that same question with AI—not in opposition to it and not in avoidance of it—then we are doing justice for the Socrateses of the future.

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## ABOUT THE AUTHOR



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As a two-time Head of School and as a consultant to nonprofits, he has designed and implemented several change initiatives.



### MIDDLE STATES

MSA is the worldwide leader in accreditation and school improvement. For over 130 years, Middle States has been helping school leaders establish and reach their goals, develop strategic plans, promote staff development and advance student achievement. With nearly 2,800 accredited schools and school systems in over 110 countries, MSA-CESS is proud of its continuing legacy and its ongoing innovations to meet the challenges of improving education in the 21st century.

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