Don't sit out the AI and education revolution

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Matter and Space

Renting an apartment in Paris for part of the year, reading late into the evening, writing a new book, spending more time with grandchildren and my wife, Pat, these were on my "how to spend my sabbatical year" list of possibilities for when I planned to step down from the presidency of Southern New Hampshire University (SNHU) in June 2024. It had been a great 21-year run working with my team to create one of the country's largest universities, with 250,000 students, and inventing new models of education along the way. But it was time to assume the more contemplative and measured role of scholar, thinker, and writer.

An exciting change of plans

In November 2022, OpenAI released ChatGPT to the public, and the world changed overnight. Like most people, my initial exploration of artificial intelligence (AI) for the masses began playfully. At a holiday dinner party, my laptop sat at the end of the table like a strange guest, and we asked ChatGPT to write about higher education in the form of a Shakespeare sonnet, then in the style of E. E. Cummings, then with the voice of a 1930s gangster. We asked it to outline a three-day itinerary for an upcoming trip to London, adding our preferences for museums, cuisine, and theater. Its responses were uncanny in their speed, responsiveness, and detail. In subsequent days, I asked ChatGPT to design an Intro to Poetry course for me, providing parameters including course outcomes, assignments, and activities. I asked it to teach me, step-by-step, to create pivot tables in an Excel spreadsheet. I uploaded a chapter from my book *Students First: Equity, Access, and Opportunity in Higher Education*[1] and asked it for a summary. In task after task, it performed exceedingly well. I was thunderstruck with the possibilities.

1 LeBlanc, P. (2021). Students first: Equity, access, and opportunity in higher education. Harvard Education Press. https://hep.gse.harvard.edu/9781682536759/students-first/

In the 1990s, my doctoral research at the University of Massachusetts in Amherst examined how a powerful new technology, in that case personal computers and networking, might change our noetic economy, i.e., the ways we think and process information. More than four decades after studying the relationship of technology to cognition, and with my career winding down, those first interactions with ChatGPT once again made me feel that the world was about to change, only this time more profoundly than when I discovered those early PCs in the 1980s. If generative AI was truly revolutionary, the revolution was arriving fast. The speed of adoption has been dizzying. ChatGPT reached 1 million users within five days of its release and 100 million users within two months. We had never seen a technology adopted with such speed.

ChatGPT REACH UPON RELEASE:

1M users within five days  **100M** users within two months

What would we now educate people to do, to think, to know? Indeed, would we have to rethink knowledge itself, or at least our relationship to it? AI would be big. Like, invention-of-fire big. Like, invention-of-electricity big. Might we use AI to *reinvent education* to improve it and make it available to the millions of people globally who otherwise lacked access?

I was inspired by the book *Power and Prediction: The Disruptive Economics of Artificial Intelligence*,[2] which argues that the full potential of AI is unleashed only when we use it in system redesign rather than as a point solution within an existing system. With longtime friend and noted researcher George Siemens and a handful of other colleagues, I asked myself, "What would it look like if we could use AI to reinvent education wholly unencumbered by how the existing system operates, giving no thought to accreditation or financial aid or traditional roles? What if we took a clean sheet approach to the question, creating an AI-powered, human-centered model of education for the dawning Age of AI?"

Who would want to sit out this next exciting phase of societal and educational change? Goodbye Paris, that pile of books, and any time to write. I knew that long-awaited sabbatical would instead become a journey into the astonishing, puzzling, sometimes frightening world of AI and the opportunity to reinvent a model of education that felt to us increasingly broken, ill-suited for the new world order, and out of reach for too many.

Existential questions and personalization of learning

In the following months, George and I exchanged ideas and started to play with how AI might alter education. We started with existential questions and a growing conviction that the *epistemological* focus of education, centered on knowledge, what one should know and how we know, would shift to more existential and *ontological* questions of being: how we think about being human, in community, and in a world where we will coexist with knowledge machines far more powerful than we are.

More practically, we also agreed that genuine personalization of learning is possible, a goal long promised yet unrealized despite earlier attempts and often grand claims. We imagined a future model in which 30 students in the same program would master the same skills and knowledge, but have 30 different experiences, pathways, and content, that is, each would have a precisely tailored learning experience. We wondered if we might leapfrog personalized learning, that elusive goal of ed-tech companies, and develop precision learning, the kind of n-of-1 understanding of a single learner, akin to what precision medicine does for patients.

Truly personalized learning is a profound notion. Education has largely been designed for the Industrial Age, with its need for large numbers of literate workers with higher order skills. To scale and measure performance, education adopted a one-size-fits-all delivery model that favored standardization and efficiency. If 30 students are enrolled in the same program they'll largely have the same experience, follow the same sequence of topics and activities, and digest the same content no matter what they know, how they learn, how they think, and regardless of their context and conditions. At almost every level, education is designed around the thing to be learned and how the instructor wants it learned (which is usually a reflection of how *they* learned it).

George, one of the world's leaders in learning science, was convinced that AI gives us the tools to build powerful and dynamically updated learner profiles for each student, profiles that would serve up learning with a precision and efficacy never seen before in education. *Personalization*, the Holy Grail of education, would be in our grasp. We could advance from one-size-fits-all to student-centered precision learning, a paradigm shift. We could change the world of education.

2 Agrawal, A., Gans, J., & Goldfarb, A. (2022). Power and prediction: The disruptive economics of artificial intelligence. Harvard Business Review Press. https://store.hbr.org/product/power-and-prediction-the-disruptive-economics-of-artificial-intelligence/10580?srsltid=AfmBOopkapx6ttZPrionwJgwCs7MZM014QbYF7boNARLCVE-W-x9fLAG

The vision: Using AI to expand access to quality education

As an immigrant and first-generation college graduate, I experienced firsthand the power of education to transform a life. I can name the three teachers who had the most impact on me, one in sixth grade, another in high school, and one in college, and it was access to affordable, high-quality post-secondary education that opened up career and life opportunities for me. I also know my experience is increasingly out of reach for too many people in the United States and around the world. Too many learners don't have a teacher who makes them feel like they matter, or who mentors them the way I was mentored. Too many people can't afford high-quality educational programs and, in much of the world, there just are not enough seats.

We believe we can use AI to give any learner access to the best knowledge and instruction, support for their well-being, and the soft skills necessary for success and advancement, and do so at a fraction of the cost of most education. We can harness personalization and AI's dialogic nature to make students feel like they matter when little else around them sends that message. This is not about displacing faculty roles or replacing traditional institutions. It's about bringing extraordinary post-secondary education to populations that today lack access to it, especially in developing economies and deeply underserved communities. That's the big vision.

AI is not about faculty displacement or replacing institutions, but expanding access to high-quality postsecondary education.

AI: An economic and existential disruption

We also must build the guardrails, training systems, ethical frameworks, and equitable access that turn AI, a powerful and disorienting invention, into the backbone of a shared prosperity. Previous technological revolutions, think steam, electricity, mass production, and computing, expanded what humans could do. But none stepped directly into the territory we have long claimed as ours alone: the capacity to reason, to imagine, to decide, to connect. AI is not just a faster loom or a bigger engine. It's an encroachment on intelligence itself and a challenge to what we've pointed to for centuries to define what it means to be human.

That's why AI feels different. It's not just an economic disruption, it's an existential one. If a machine can write a persuasive essay, diagnose an illness, compose a symphony, or solve a design problem, we start to ask uncomfortable questions: What is left for us? What does human judgment mean in a world where algorithmic decisions outperform our own? Where do we draw the moral lines about what only a person should do?

We're very early in the AI revolution. There's irrational exuberance (especially among investors) creating an "AI bubble," which many fear could burst any day. AI disasters of some unpredictable sort likely await us and, not surprisingly, many hold deep and justifiable fears. We're still some time away from unlocking AI's benefits for the many, not just the few. In earlier technological revolutions, it took new laws, public education, infrastructure, and institutions designed for the new reality to democratize the benefits of the new technology. With AI, that will also mean building ethical frameworks, guardrails, and cultural norms, deciding not just *how* the technology is used, but *what parts of being human we refuse to outsource*. While this certainly appears daunting, it's some consolation to know that in every previous technological revolution, the chaos of the transition gave way to a new Golden Age, as Carlota Perez[3] has taught us.

For now, though, we're in the messy beginning, where the possibilities are thrilling, the risks are disquieting, and the future feels less like an open invitation and more like a debate over what it even means to be invited at all (and many would prefer to be left off the guest list).

In contrast to those who worry, there are techno-optimists like Ray Kurzweil, Sam Altman, and Marc Andreessen, author of the much-debated "Techno-Optimist Manifesto,"[4] but they fail to address the more the existential questions of how we'll derive meaning, how societies then operate, and how economics will be redefined if we indeed enter an age when no one needs to work and all our basic needs are readily met. How much baseball can we watch?

Those are the big questions, the province of philosophers, psychologists, sociologists, ethicists, and theologians. In a keynote talk I gave on AI and education in Cuzco, Peru, in 2024, I turned to the Catholic priests in the audience, of which there were many given the large number of Catholic universities across Latin America, and said, "Fathers, this is your time. You have always been about the big questions like 'Why are we here?' and "What is our purpose?'" And while

3 Perez, C. (2022). Technological revolutions and financial capital: The dynamics of bubbles and golden ages. Edward Elgar Publishing Limited. https://www.e-elgar.com/shop/usd/technological-revolutions-and-financial-capital-9781840649222.html?srsltid=AfmBOopHoNNZPgLjEgxdE4FdN2KI2C2ts_v-oFf-U3r07wJOWzh9v4c7

4 Andreessen, M. (2023). The techno-optimist manifesto. Andreessen Horowitz. https://a16z.com/the-techno-optimist-manifesto/

I was admittedly pandering a bit, I was also sincere, and they nodded in affirmation. AI will require us to revisit those questions too often set aside while we busily pursue our day-to-day lives.

Questions on AI and the future of education

We are in the midst of a complex societal transition, full of unknowns, and the technology fueling the change is evolving at warp speed. What we can say about the technology today is likely to be outdated tomorrow, but we can ask good questions about AI's role in the future of education. Indeed, I'd argue that the best path at this moment is to distrust certainty and instead ask better questions.

> Technology is rapidly fueling change, creating a complex and evolving shift in the structure, culture, and values of society.

The questions I'm thinking about now include:

- What will be the future of work and how will that reshape what universities offer?
- Will education move from an epistemological to ontological focus, worrying less about what learners need to know and more about why universities need to exist, how knowledge can be used, and what we want society to look like?
- What does it mean to live alongside a new form of intelligence, one that's smarter and seems human in many ways, and in a world where many will prefer their AI companions to their human companions?
- Can we make high-quality, personalized education available to all the world's population for free or almost free?
- What of the incumbent education system? How does it evolve? Will we need it or want it in the future?

Final thoughts

Are my colleagues and I techno-optimists? It depends on the day. As educators, we're fascinated by exploring AI's possibilities for improving education. As people whose lives have been transformed by education and remarkable mentors and teachers, we love our industry, but we also are painfully aware of its shortcomings. Today's education model leaves too many people behind, remains too far out of reach for too many globally, lies increasingly out of step with what society needs, and often is overly occupied with itself and not focused enough on students. AI invites us to rethink the role and delivery of education, even as it frightens us.

We could sit and wring our hands, waiting to see how this all plays out. After all, we can envision myriad ways the world could get it wrong. We've seen *2001: A Space Odyssey*, *Her*, and *The Terminator*. Or we can try to shape AI's course, at least our corner of it, and proactively build a future in which education and AI can help fix a world that feels deeply broken.

This essay borrows from the forthcoming book *Reclaiming Purpose: Universities in an AI World*, to be released in 2026 by Wiley, and written by Paul LeBlanc, with Tanya Gamby and George Siemens.

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