

What Should We Preserve When Everything Can Be Generated?

REFLECTIONS FROM AN EDUCATIONAL LEADER

I was recently invited to observe a lesson and provide feedback. I sat at the back of the classroom, trying to be as quiet and invisible as possible while watching the lesson unfold. The teacher had organized the activities carefully, and the students appeared attentive. They participated in discussions, answered questions, and completed the tasks assigned to them. Toward the end of the lesson, the teacher asked the students to write a short reflection on what they had learned. Within minutes, most of the students had finished. Their responses were neat, coherent, and in some cases surprisingly polished.



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At first glance, it seemed like the lesson had been highly effective. Everything appeared to function as it should, and the students seemed to grasp the content. Yet as I read through their reflections, a subtle unease began to grow inside me. The ideas were not identical, but there was a kind of predictability in the way they were expressed, a similarity in how arguments were structured and concluded. It was as though each student had followed an invisible template.

When Polished Work Feels Empty

After class, I spoke with a student who mentioned that they had used AI to generate some key ideas before editing them.

That revelation was not entirely surprising, but it made me pause.

The responses were accurate, well-organized, and stylistically clean, yet something essential seemed missing. There was no trace of hesitation, no small errors that revealed a thought process, no uncertainty that hinted at struggle.

Writing is more than putting ideas into sentences. It is a process of wrestling with thoughts, making decisions about expression, and owning the ideas you communicate. When AI produces polished work, it can strip away that ownership, leaving behind a technically correct output that belongs to no one. It made me think about the purpose of education and the nature of learning. If a student can produce competent work without thinking through it fully, what is left of the learner's engagement with the material? What is left of their identity as a thinker?

The Loss of Ownership in Learning

In my work as a school leader, conversations about AI have become nearly constant. We discuss its potential to increase efficiency, personalize learning,



and provide support at scale. These possibilities are real. AI can offer teachers immediate feedback on lesson plans, simulate classroom interactions, suggest alternative ways to engage students, and track where learners struggle. It can provide resources tailored to individual needs and give students additional practice or guidance. Adaptive programs can free teachers from repetitive tasks and allow them to focus on mentoring, discussion, and creative exploration. The potential to enhance learning is enormous, yet the adoption of AI also raises challenges that are less often discussed.

When AI Can Generate Almost Everything

Ross Andersen has described AI systems trained in what he calls “Borgesian libraries,” where vast amounts of human writing are ingested until the AI develops sophisticated capabilities. These systems can translate dozens of languages, reconstruct texts



that have been damaged or lost, produce poetry, and generate coherent essays on complex subjects. The concept is compelling: feed an AI enough high-quality text and it can produce outputs that appear almost human. Yet there is a fundamental limitation. Well-written human prose is not infinite, and not all text is equally useful in training AI. Andersen and other researchers warn that large language models may run out of high-quality material by 2027. If that happens, the capacity for AI to produce outputs that feel authentic or creative may stall. For students, this raises an urgent question: If AI can generate almost everything a learner is asked to produce, what remains for the student to create independently?

Why Struggle Still Matters

The challenge is not that AI produces incorrect answers. The challenge is that it can change the very nature of learning. Producing polished work has never been easier. Students may begin to equate learning with completing tasks rather than engaging in the mental labor of understanding. Reflection, hesitation, and struggle are essential for internalizing knowledge. They are the moments when learning becomes personal and when identity as a thinker is forged. These moments often appear in imperfect work, in

drafts that are messy, in answers that are half-formed but demonstrate the learner's attempt to make sense of ideas. AI-generated work removes these traces. It can flatten the diversity of thought, leaving outputs that work but do not reveal a mind behind them. The act of thinking through a problem, even if the final answer is imperfect, is what develops understanding.

Struggle is not merely an obstacle to overcome. Cognitive research shows that effort strengthens comprehension, memory, and critical thinking. Moments of delay, uncertainty, and failure are essential to learning. When students are allowed to grapple with problems, test ideas, and make mistakes and correct them, they develop reasoning, creativity, and resilience. These qualities cannot be downloaded, generated, or automated. They emerge only through engagement with challenge, reflection, and iteration. If AI allows learners to skip these moments, they may achieve technically correct answers but at the cost of depth, curiosity, and self-knowledge. The process of thinking, of trying and failing, of revising, is where authentic learning lives.

A World Without Learning Processes

Despite these concerns, AI is not inherently harmful to education. Some schools have experimented

with models that allow students to spend less time on traditional instruction and more time on collaboration, creativity, and life skills. Adaptive learning can help students progress at their own pace, freeing class time for discussion, problem-solving, and exploration. These approaches have shown promise in engaging students and supporting personalized learning. Yet questions remain. Can students' social and emotional development thrive in highly mediated learning environments? Can efficiency coexist with curiosity, imagination, and exploration that do not produce immediate results? Education is about more than content acquisition. It is about shaping people

experiment, take risks, make mistakes, and revise. These are the conditions under which thinking, creativity, and judgment develop. They cannot be outsourced to algorithms.

Ethics are central to this discussion. How can educators preserve authenticity, creativity, and the personal imprint of learners in a world where AI can generate almost anything? How can we ensure students remain active participants in knowledge creation rather than passive consumers? Teachers can emphasize process over perfection, valuing drafts, errors, and partial solutions as evidence of effort and thought. This approach may slow visible achievement

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who can think, reflect, and make judgments. The human element cannot be replaced by technology.

These reflections came to mind again during the launch of *The Last Classroom* by Dr. Hoàng Anh Đức. The book imagines a world in which knowledge can be directly downloaded into the brain, eliminating traditional learning. Students instantly acquire facts and demonstrate mastery without effort. Yet when the system fails, they are forced to return to thinking, questioning, and working together. What makes this story compelling is not the imagined technology itself, but rather the lesson it conveys about the process of learning. If students only receive outcomes without engaging in the process, they lose the ability to make meaning for themselves. They lose the practice of struggle, the ability to form judgments, and the creativity born of effort. Learning without process leaves skill but not wisdom, knowledge without ownership, and answers without identity.

What Schools Must Protect

From this perspective, the role of schools becomes both clearer and more challenging. Schools must define not only whether to use AI, but how it should be used and for what purpose. If the goal is efficiency, AI already delivers. If the goal is to help students develop independent thought, personal understanding, and originality, technology alone cannot achieve it. Responsibility rests with educators to design experiences that preserve struggle, reflection, and authenticity. Students must be encouraged to

but will nurture qualities that cannot be replicated by AI. Resilience, curiosity, critical thinking, and self-awareness are developed through engagement, struggle, and reflection.

I continue to think about the reflections I read that day in the classroom I visited. Perhaps in the future, using AI to generate ideas will feel entirely normal. Perhaps it already does. But one principle must remain. Every student's work should carry a part of them. It should be imperfect, unfinished, and unmistakably theirs. Education is not only about correct answers. It is about learning to think, to understand, and to decide who one wants to become. In a world where almost everything can be generated, the ability to create meaning for oneself may be the most precious thing to preserve.

The Quiet Moments of Real Learning

In the weeks following that observation, I began to pay closer attention to the subtle moments in classrooms where true learning seemed to happen. I noticed students pausing over a problem, rewriting sentences, crossing out ideas, and starting again. These small hesitations, these fragments of doubt, often led to the most original insights. They reminded me that learning is rarely linear and seldom neat. There is a rhythm to understanding that cannot be captured by AI outputs, a rhythm of trying, failing, adjusting, and gradually shaping knowledge into something that feels personally meaningful. I thought about the students who struggle silently, who take longer to express ideas,

or whose thoughts seem scattered at first. In these moments, there is courage, and that courage cannot be generated. The process of wrestling with ideas, of confronting one's own limitations, of choosing how to express a thought, is central to what it means to be a learner.

I also thought about teachers, who, in the age of AI, face a shifting role. No longer are they merely the source of information or the graders of student work. They must become guides who cultivate curiosity, patience, and reflection. They must create learning environments that honor mistakes, encourage experimentation, and recognize each student's individuality.

If a teacher notices a student's unique way of connecting ideas, that observation is as valuable as the content itself.

AI can provide facts, summaries, or even stylistic suggestions, but it cannot perceive the nuance of a child's growing understanding or the personal context that shapes it. The teacher's human judgment, empathy, and attention remain irreplaceable.

I realized that education is about more than transmitting knowledge. It is about nurturing learners who can navigate uncertainty, embrace ambiguity, and construct meaning for themselves. It is about preserving the messy, imperfect, human process of learning that cannot be outsourced or automated. In a world where AI can generate almost everything, our responsibility is to safeguard the experiences that allow students to think, to question, to explore, and ultimately to become the kind of people they aspire to be. Technology can support, accelerate, or enhance, but it cannot replace the interior work of learning, the personal journey through doubt, discovery, and reflection. Preserving these moments, and honoring the individuality they reveal, is perhaps the most important task of educators in our time.

About the Author:

Ngo Thanh Nam is an educator, innovator, and community leader dedicated to transforming education and addressing social challenges faced by Vietnamese youth. He currently serves as the Principal of Elite in Binh Duong, Viet Nam, where he integrates health education and sustainable development into the curriculum, with a focus on both the physical and mental well-being of students.



Driven by a mission to reform education, Nam aims to create environments that prioritize students' holistic development and inspire them to become compassionate global citizens. He has spearheaded multiple initiatives to support this vision, including the Five Safe Fingers Project, a global child abuse prevention program, and the Kindness Everyday Initiative, which fosters a culture of empathy and kindness in schools. In addition to his work with students, Nam is committed to mentoring educators. He leads the Vietnamese Innovative Educators Foundation, a thriving community of over 177,000 educators focused on leveraging innovation and technology to enhance teaching practices. Nam is eager to further develop his capacity to lead projects that integrate health and education solutions while advocating for systemic policy reforms. He envisions a future where education serves as a powerful tool for healing, empowerment, and lasting social change.

Also by Ngo Thanh Nam, featured in previous issues of Childhood Education Innovations:

- "Everyday Kindness: A Global Education Movement From Vietnam"
<https://www.tandfonline.com/doi/full/10.1080/00094056.2025.2552618>
- "Inclusion, Innovation, and Impact in Education: An Interview With Nam Ngo Thanh"
<https://www.tandfonline.com/doi/full/10.1080/00094056.2026.2617096>

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