SAINTS PERSPECTIVES

Things Educational

Ed Tech is profitable. It is also mostly useless

Independent research identifies few learning gains

The Economist, Jan 22nd 2026

.

Out with the chalkboard Photograph: Getty Images

McPherson Middle School in Kansas had been burned before by education technology, but in 2022 school leaders were ready to try again. They selected a digital programme called **IXL** from a statewide recommendation list. It promised instruction tailored to each student's level, igniting quick gains. The school used it to assign most in-class independent maths work. "We thought it was going to be really magical," says Inge Esping, the principal.

It wasn't. It "didn't really move the needle", Ms Esping says. Students found the programme repetitive, rigid and boring—and distraction proved irresistible once they were on their school-issued laptops. The school tried blocking YouTube and Spotify, then student-to-student email. But children found workarounds and teachers resented their new surveillance duties. In 2025, as parents had long implored, students turned in their laptops, to be brought out only rarely. Pencil and paper now rule; **IXL** is used sparingly, for quick extra practice of maths skills already covered by teachers. An **IXL** spokesman says the

school's experience "is not consistent with what we've seen across Kansas and the US" and that its programmes outperformed those of peers.

According to researchers, McPherson's experience is a microcosm of the perils of ed tech. Fifty years after Apple began marketing computers to schools, classrooms are awash with technology. Some 90% of high-school students and 84% of primary-school pupils have school-issued devices; four-fifths of kindergarteners are given them. Concerns about fractured attention and data security are mounting.

Although ed-tech companies tout huge learning gains, independent research has made clear that technology rarely boosts learning in schools—and often impairs it. A 2024 meta-analysis of 119 studies of early-literacy tech interventions, led by Rebecca Silverman of Stanford University, found the studies described programmes that delivered at best only marginal gains on standardised tests. The majority had little effect, no effect or harmful ones. Jared Horvath, a neuroscientist and author of a book called "The Digital Delusion", has reviewed meta-analyses covering tens of thousands of studies. His verdict: "In nearly every context, ed tech doesn't come close to the minimum threshold for meaningful learning impact."

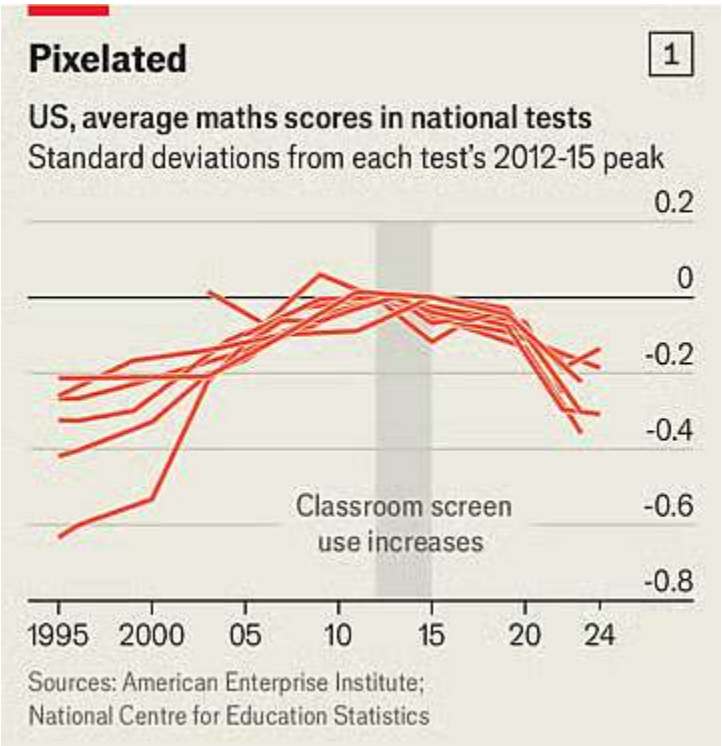

Chart: The Economist

The prevalence of tech in schools owes less to rigorous evidence than aggressive marketing. Teachers are now flooded with daily offers for free tech. In 2024 American schools spent $30bn on education technology. Globally, it is a $165bn industry. Technology does save money on textbooks and streamline lesson planning. But licensing and training costs add up, and many teachers feel burdened rather than liberated by all the admin and dashboards.

Long-term trends raise the possibility that the rise of in-class devices is responsible for an alarming decline in performance in reading and other subjects. Scores on 21 nationwide benchmark tests rose from 1994 until peaking in 2012-15, when screen use started to soar; they then began to sink(see chart 1). In major assessments for maths, science and reading from 2011 to 2019, greater in-school computer use for learning correlates with lower scores. In contrast, students in classes with rare or no computer use at all typically score highest (see chart 2).

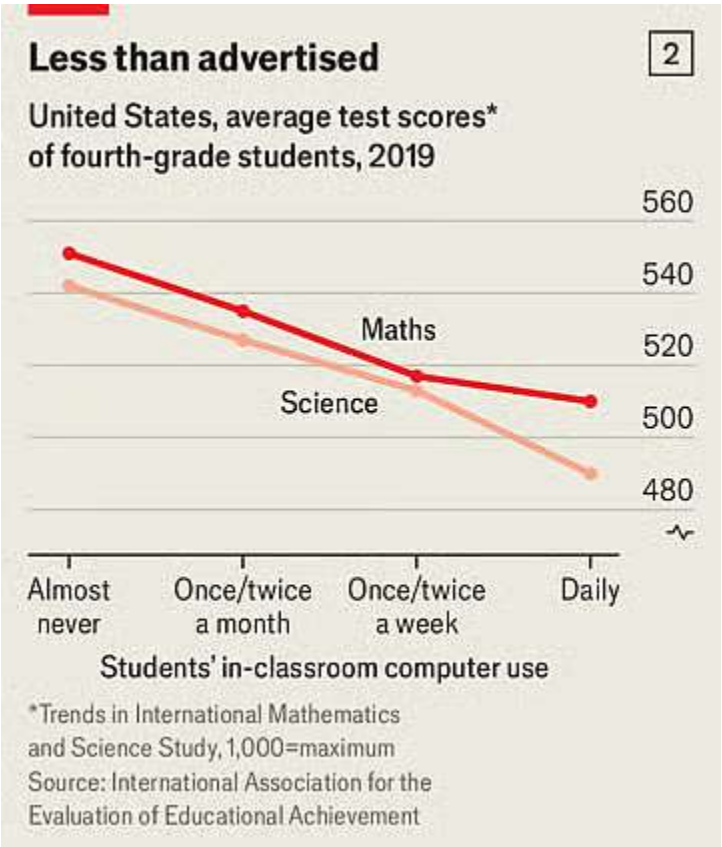

Chart: The Economist

Distraction is one likely culprit. Another is that some tools emphasise gamification at the expense of education, meaning that children focus more on winning points than

mastering concepts. But there are more insidious issues, such as the ways digital tools weaken human connection and empathy in the classroom.

Evidence shows that apps can support learning through drills in two areas: for certain learning disabilities and in adaptive tutoring in narrow domains where there are clear right and wrong answers, such as spelling and arithmetic. But although students may improve through repetition “within the game”, they struggle to transfer knowledge to other contexts such as standardised tests.

Common sense argues for differentiating between age cohorts when it comes to tech. “Particularly for younger children, what’s most important is that they are interacting with other humans,” says Jeffrey Greene of the University of North Carolina. For older ages, Ms Esping and Rodney Trice, a North Carolina district superintendent, advocate “limited, intentional” use. “The pendulum has swung toward devices determining the assignment rather than the other way around,” Mr Trice says.

Back in 2013, Bill Gates remarked that it would take a decade to know whether education technology really worked. More than ten years and hundreds of billions of dollars later, the answer is increasingly clear. Notes Emily Cherkin, an advocate and fed-up parent: “Imagine if all that money had gone into teachers instead.” ■

Readers’ Comments:

Feb 12th 2026

Education technology is profitable but mostly useless, you argue (“Failing the screen test”, January 24th). It is right to question the return on investment, but blaming the technology for poor outcomes is like blaming running shoes that are still in the box after a New Year’s resolution.

Our data show that the problem isn’t the tools. It’s the implementation. School districts that buy literacy platforms without committing to its systematic usage see no gains. But districts that ensure just one hour a week of consistent use (40 hours out of 800 total instructional hours) typically see significant reading gains. The difference isn’t the platform. It is whether schools maintain disciplined implementation with teacher training and accountability.

You note that some schools are returning to pencil and paper. Fair enough. But whether digital or analogue, learning requires consistent practice. Ed-tech vendors, as a class, oversell, but districts buying tools without the discipline or capacity to use them shouldn’t be surprised when outcomes don’t improve.

Sean Ryan, President
K-12 Division, McGraw Hill
Columbus, Ohio

I found your analysis to be empirically sound, but it would be sharpened by two refinements. First, ed tech is treated primarily as instructional software, but much of the industry's scale and profitability comes from platforms and hardware (such as Chromebooks, iPads, and operating systems) that erode attention and degrade classroom behaviour even when no instructional software is running.

Second, educational apps may disappoint when they digitise tasks that are better done off-screen, especially for young children. By contrast, there are domains where computers are not optional but necessary, such as coding and data science. Separating infrastructure from instructional software, and distinguishing among different kinds of instructional goals, would clarify the economics of ed tech and the learning-science evidence.

Ji Son
Professor of psychology
California State University Los Angeles

The problem is not technology itself, but how ed tech is financed, and therefore what kinds of evidence it is able to produce. High-quality impact research is expensive. Rigorous evaluations require access to classrooms, ethical oversight, independent researchers and long-time horizons, often costing six figures. These costs introduce uncertainty that private investors, understandably, avoid.

As a result, ed-tech markets reward what is easiest to measure and monetise: user growth, licences and subscriptions. When firms must choose between funding the next feature that attracts customers and funding an independent evaluation where the results may be slow, uncertain or inconvenient, evidence of learning predictably loses out.

Markets deliver what they are paid to deliver. Ed tech should be treated like public infrastructure, not a consumer app. Governments underwrite roads and medical research. They should similarly fund independent research and outcomes-based contracting that ties payment to learning impact. Britain's £23m ($31m) investment to expand the government's research and development in ed tech is a way forward. Until evidence is financed as a public good, markets will continue to optimise for the wrong signals and learners will bear the cost.

Professor Natalia Kucirkova
Professor of early childhood and development
Open University
Milton Keynes

Recent research from the Nord Anglia Education Metacognition Project, conducted in partnership with Boston College and spanning 27 schools worldwide, offers a more nuanced perspective. Over two years and with more than 12,000 students and 5,000 teachers participating, our study found that technology's educational impact depends less on its novelty and more on its ability to support proven learning strategies; specifically, metacognitive approaches that foster self-awareness, reflection and skill transfer.

Our results show that when digital tools are used to support meaningful reflection and embed "thinking routines" in everyday learning, students demonstrate significant gains in curiosity, creativity, collaboration and critical thinking. Students who used these approaches in lessons, and then reflected on their experiences, reported up to 21% growth in critical thinking and 20% in curiosity. Teachers observed marked improvements not only in academic outcomes but also in motivation, independence and communication.

Crucially, our study found that the quality of reflection matters far more than quantity. Technology that simply automates drill-and-practise or digitises worksheets, like the example highlighted in your article, rarely moves the needle. In contrast, platforms that enable students to capture and reflect on specific learning moments drive measurable progress in skills and mindsets.

We agree that technology cannot replace human connection, but when integrated as part of a broader pedagogical strategy, where teachers have time and training to embed metacognitive routines, technology becomes a powerful lever for change, not a distraction.

Dr Kate Erricker
Group head
Education research and global partnerships
Nord Anglia Education
London

Related Articles:

<TBD>