What Happened After a Teacher Ditched Screens

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For more than a decade, Dylan Kane, a seventh-grade math teacher in Leadville, Colorado, leaned into technology as a way to improve his classes. Starting in 2014, he dragged Chromebook carts down hallways to make sure all of his students could use a device. He assessed the available apps, built his own math-instruction website, and embedded software to prevent kids from playing games or exploring inappropriate sites. He kept adapters around the room so everyone could charge up.

Then, in January, he took the Chromebooks away. He had sensed that the technology was falling short of its promises. Within weeks of ditching the screens, he saw how they had been holding both him and his students back. Given my own research on children and education, I reached out to him when I learned from a colleague about his experiment.

Laptops and tablets have become ubiquitous in classrooms across the country. About 90 percent of school districts provide every student with a school-issued laptop or tablet. A nationally representative survey from 2021 of ed-tech use by teachers found that more than half had their students use screens for up to four hours a day, and more than a quarter had students spend at least five hours on screens in a typical school day.

The great promise of educational technology is personalization. Every student suffers from "Swiss-cheese gaps" in their knowledge, Sal Khan, the founder of Khan Academy and an evangelist for how tech and tutoring can enhance learning, once told me. Yet finding and filling these holes is a serious challenge for a teacher with 20 or more students who span several grade levels of ability. Specially designed apps, websites, and now AI tutors tout not just ways to measure the abilities of every student, but also software that adapts to each student's interests and skills. Algorithms are meant to ensure that no student falls through the cracks.

Yet Kane found that the reality was more complicated. An early adopter, he helped pioneer an experiment at his school to give eighth graders laptops, and he was a swift cheerleader for Desmos, an online graphing tool that lets students drag sliders and manipulate equations. But something was nagging at him. Even with the best-designed software, built with pause functions so he could remotely freeze students' screens to recapture their attention, he noticed that his students tended to stare at their screens during class discussions. "There's this gravity that the screens exert on student attention," he told me. "They're waiting for it to unpause, waiting for it to pull them back in."

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He tried having them tilt their screens down, but they would slyly tilt them back up. He tried having them close their Chromebooks entirely, but then he was spending precious minutes managing the transition to and from screens, reconnecting to the internet, troubleshooting the inevitable problems: the charger that wouldn't work, the software that inexplicably blocked the wrong websites, the Chromebook that was suddenly dead. "You might be amazed at how much time I spend dealing with stuff like that," he said.

Already frustrated, Kane read the December book *The Digital Delusion*, in which Jared Cooney Horvath, a neuroscientist and an educator, blames technology for the widely documented decline in student achievement. Although Kane disagreed with Horvath's insistence that screens in classrooms are the primary culprit behind declining test scores, he began to wonder if the Chromebooks in his own classroom were causing more harm than

good.

After years of accumulated doubt, Kane decided to run an experiment: no Chromebooks for a month. He soon discovered that he didn't miss the tech.

Not only did he lose less time futzing over lost chargers and bad links, but he also noticed right away that his students paid more attention to what he said. Even more striking, Kane found that it was easier to connect with and respond to his students.

"If I walk by Jimmy and I see he answered the first two questions and the third one is blank, that gives me a ton of information," Kane said. When he sees that Jimmy is clearly confused about No. 3, Kane can stop and help him. Screens, however, made it possible for a student to look busy for an entire class period without Kane ever knowing he was stuck.

Kane ends every class with a short mixed-practice assignment, a retrieval exercise that revisits the day's lesson and older material. He'd been delivering it digitally; in January, he switched to paper. He was surprised to discover that this raised the assignment-completion rate—from 45 to 62 percent—of the students who were the least likely to finish and submit their work before, even though the digital version could technically be finished after class. He now speculates that because working in pencil and paper slows students down and makes their thinking process visible, they are better able to push through hard concepts.

Because Kane's intervention is so recent, his hypothesis has yet to be confirmed by standardized tests. Over and over again, though, Kane discovered that all of the dashboards and data analytics of ed tech did not make the individual needs of students clearer, nor did they much help those who were struggling. Instead, the screens offered students cover, a way to appear engaged without any actual sustained effort. Only when he got rid of all the laptops and tablets did the needs of his students become plain. "If I walk by and see what they've done on paper, I can respond to their learning," he said.

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Education, Kane knows, is profoundly and stubbornly social. "There are a lot of students who need accountability," he said. The answer is not more surveillance, but more companionship in the struggle. "Students benefit from being in a room with a bunch of other people who are learning the same thing, the collective effervescence of all trying to make progress together," he said. "And they benefit from an adult who knows them, who is in the room, who says 'I care about your learning.'"

Screens, Kane noticed, had made it easier for students—and, if he's being honest, for teachers—to opt out of that contract. "Chromebooks can be a classroom-management strategy," he said. "Students tend to be a little more docile with a screen in front of them. And it was just so easy for me to sit behind my screen and watch the little dots marching across the dashboard and not really teach." He's noticed that teaching in an analog environment is more demanding. "I'm more fatigued," he said. "But I'm happy with that."

There is no question that technology can support learning. But somewhere along the way, what was once a 30-minute intervention became kids glued to laptops at school—and at home, too, because many homework assignments and materials are virtual. Educators are still trying to figure out how to balance technological tools that can be both enormously helpful and perniciously distracting. "I've been in classrooms that had lots of ed tech where very little learning was taking place," Natalie Wexler, the author of *Beyond the Science of Reading* and *The Knowledge Gap*, writes, "and I've been in classrooms with very little ed tech where lots of learning was taking place. But the absence of ed tech doesn't ensure learning."

Kane isn't calling for a bonfire of the Chromebooks. He still believes that technology has genuine value for highly motivated, self-directed learners, and he plans to still use screens occasionally, maybe once a month, for specific tasks. He's even cautiously optimistic about the potential for AI to help teachers generate better classroom materials.

What Kane is skeptical of is the prevailing assumption that technology is a valuable asset for teachers and students in schools. “Classrooms are social spaces and collective endeavors,” he explained. Screens, however, “tend to distract and divide us.”