

# Schools Squandered Virtual Learning

*A timid response, with lessons for the future*

By MICHAEL B. HORN

**A**DVOCATES OF DIGITAL LEARNING have long clamored for technology to play a central role in schools. Using technology, however, is not the goal in and of itself. Rather, it is a means to their ultimate end: remaking a public education system built for an industrial society, not the current knowledge-based one. In such a system, learning would be optimized for individual students to boost their enjoyment and academic progress in school.

The pandemic has ushered in a world of near-ubiquitous digital learning nearly overnight. It could have been an unexpected opportunity to create this future of learning, now. But the signs haven't been all that positive or promising that much of a remake is underway. Parents, for example, report in the latest *Education Next* survey that although they are satisfied with their children's schooling, there's a lot less learning happening (see "Pandemic Parent Survey Finds Perverse Pattern," *features*, Winter 2021). Indeed, a recent study of reading performance in Ohio suggests a decline in student achievement equal to about one-third of a year's worth of learning for all students and half a year's worth for Black students.

Rather than look for the silver lining in the sudden switch to technology-enabled learning over the past year, many educators have—perhaps understandably and predictably—squandered the opportunities for innovation. Even in ordinary times, schooling communities tend to favor stability over dramatic innovation, and that has apparently ruled the day yet again. But there are a few bright spots that can inspire hope for at least some tinkering toward utopia, even if there won't be mass transformations of schools as we know them.

## The Hope for Digital Learning

Schools weren't built to optimize all students' learning. They were built for many things—inculcating the values of the American democracy, sorting individuals, serving mass numbers of children in the most efficient way possible—but not for ensuring that all students learn. Instruction happens at fixed intervals, and progress is mostly based on seat time, not mastery. Students can skate by while missing large chunks of knowledge.

Many advocates of digital learning have hoped that technology could change that. Technology can personalize learning by helping to deliver just-right content and instruction at a

productive pace so each student can fulfill their potential—which can bolster learning outcomes.

Advocates often point to the proven power of tutoring to make their case, such as Benjamin Bloom's famous two sigma research, in which students in the 50th percentile were able to advance two standard deviations thanks to a tutoring intervention. That research has been revised to show much lower, but still impactful, results from tutoring.

Tutors create compelling outcomes because they ensure children are working at the right level of challenge. When they see a child doesn't understand something, they can stop and state a concept in a different way or discover that a child's misunderstanding stems from a gap in a more foundational concept. If, on the other hand, they notice a child already understands something, they can allow her to progress to a more challenging concept right away rather than grow bored. Tutors can ensure that learning is competency- or mastery-based, meaning that the outcome or goal of learning is fixed, and time is

the variable. Students can spend as much or as little time as they need to master content.

This is not only more effective, but also more engaging. As Daniel Willingham frames it in his book *Why Students Don't Like School*, "Working on problems that are of the right level of difficulty is rewarding, but working on problems that are too easy or too difficult is unpleasant."

Tutors also can connect on social and emotional levels with a child to create a more motivating experience. Although technology doesn't directly do that, it frees teachers up from whole-class content delivery and administrative tasks, which allows them to focus on developing deeper connections with each student one-on-one and in small groups.

Personalization also can support a more active learning experience, which research shows is superior to passive learning. When students are learning actively, they spend most of their class time engaging in activities, answering questions, or participating in discussions, not listening to a lecture or waiting for their peers to finish a whole-group activity. A meta-analysis of 225 studies looking at the impact of active learning on science, engineering, and math found it would raise average grades by a half a letter. By comparison, failure rates under lecturing increase by 55 percent over the rates observed under active learning.



The challenge has always been that offering a tutor for every child is prohibitively expensive. But digital-learning advocates have theorized that technology can make tutor-like experiences far more accessible. Connected devices and adaptive software can allow students to work at their right level on digital material, create more active-learning experiences, and allow teachers to focus on individual students' misunderstandings and motivations rather than delivering one-size-fits-all lessons.

## The Reality of Remote and Hybrid Learning

As districts rushed to move learning experiences online, however, they largely haven't embraced these principles of personalization, active learning, mastery-based learning, and engagement and motivation. And while the industry of digital-learning developers and providers has exploded in the pandemic during the nation's overnight pivot to remote learning, they are still playing a bit role.

Instead, the majority of teachers offering remote instruction have simply recreated the traditional school day online. According to a nationwide survey by the Clayton Christensen Institute, 42 percent of teachers say their daily hours of synchronous remote instruction resemble a conventional school day. *The Education Next* survey reports that the dominant model of remote schooling is whole-class learning, with 91 percent of students experiencing this modality several times a week compared to 35 percent who have one-on-one interactions with teachers.

Rather than taking advantage of the hundreds of millions of dollars invested in creating digital K–12 curricular products, teachers have been using materials they've created themselves, the Christensen Institute reports. The next-most-popular sources are commercial curriculum designed for classroom-based instruction and "various resources collated from online sources." Only 3 percent of teachers reported using commercial curriculum intended for a virtual setting.

What's more, while 19 percent of students learn in hybrid models—in which they are in school anywhere from one to five days a week and learn the other times remotely—a majority of schools haven't added the potential for personalization that would accompany such a blended-learning model. Instead, schools are continuing to treat students as set cohorts and offering instruction based on cohort, not on current level of learning, according to the Christensen Institute. Relatively small tweaks, such as combining hybrid models with other models of blended learning to create varied activities and dynamic cohorts for students, could have an enormous payoff. Similarly, implementing competency-based learning would help districts assess where individual children are in their learning. That could make the job of catching students up next year far more efficient.

But most districts and states have stuck to running schools

based on seat time and attendance. Even worse, some districts have asked teachers to teach in-person and remote students simultaneously, which has resulted in a clunky, passive-learning experience that broadcasts content to students and taxes teachers with more work.

Finally, one research insight from the field of online learning is that in-person interactions matter for most students to be successful. Students in full-time virtual schools typically need an involved parent, and students who take an online course do significantly better when there is an onsite mentor. Yet, according to the Christensen Institute, districts have largely eschewed supporting students with in-person supports through the use of learning pods, learning hubs, or innovative teacher configurations.

## Silver Linings

Amidst this doom and gloom, there are glimmers of hope. Some 79 percent of teachers report having discovered new resources and practices that they plan to keep after the pandemic, according to the Christensen Institute survey. Nearly 40 percent report using technology to facilitate such innovative practices as individualized learning progressions, project-based learning, and mastery-based learning.

Some districts, like the Cleveland Metropolitan School District, are seeking to double down on their mastery-based and personalized-learning practices. They are fundamentally rethinking school structures and schedules and have embraced what may become a last-

ing innovation from pandemic-related school closures: learning pods (see "The Rapid Rise of Pandemic Pods," *what next*, Winter 2021). These structures can promote engagement, academic progress, and equity.

"What we saw is, there may be a new way of engaging young people during and after school time using some kind of pods 2.0 iteration," said Eric Gordon, the district's chief executive officer.

The community is exploring using pods after the pandemic subsides to address a range of student needs. This could include creating supervised outlets for inquiry for students who are bored in class with material they have mastered already, helping students removed for disruptive behavior stay on track rather than be suspended, or even having student-run pods that allow students to act as tutors so others can catch up on lost learning time. These sorts of practices can support student choice and accelerate learning, and offer the sort of enhanced opportunities that well-resourced families typically provide.

"Suburban communities were forming pods on their own," Gordon said. "Why shouldn't my kids have those benefits?"

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