



ILLUSTRATION / JOHN WEBER

# Should We Limit “Screen Time” in School?

EDUCATION NEXT TALKS WITH DANIEL SCOGGIN and TOM VANDER ARK

A truism of school reform has long been the promise that technology, properly applied, will fuel dramatic improvement in teaching and learning. When tech-enabled schools or online learning programs haven't delivered the hoped-for results, some have dismissed these shortcomings as implementation problems—or evidence that we haven't yet deployed the right tools or the most effective strategies. But what if the challenge is bigger? What if today's connected youth are not well served by spending school hours in front of screens? In this forum, Daniel Scoggin, co-founder of the GreatHearts classical charter-school network, makes the case for school environments that put face-to-face dialogue and inquiry at the heart of learning. In contrast, Tom Vander Ark, CEO of the advisory firm Getting Smart, argues that K-12 education is poised to transform itself through wisely employed ed-tech.

## PUTTING DIALOGUE OVER DEVICES SHAPES MIND AND CHARACTER

by DANIEL SCOGGIN



**HOW DOES THE CURRENT ARRAY OF TECHNOLOGY** in schools fit with the ages-old aspiration of forming thoughtful and reflective young men and women who will strive for a greater good beyond themselves? If the first principle of education is to produce such individuals, how does educational technology support or deter from this purpose? How should today's teachers and education leaders approach the issue of “screen time” in the classroom?

Of course, learning has always been entwined with technology, and it always will be. From the papyrus scroll, to Gutenberg's breakthrough (*continued on page 56*)

## THE PROBLEM IS WASTED TIME, NOT SCREEN TIME

by TOM VANDER ARK



**ARE TODAY'S STUDENTS SPENDING TOO MUCH TIME** in front of computer screens? The more important question is: are students engaged in powerful learning experiences and, whenever possible, given voice and choice in what, how, and when they learn? Digital technology can powerfully facilitate this process, if thoughtful adults deploy it wisely. Otherwise, it can be mind-numbing, or worse.

The emerging generation of educational technology has the power to accelerate learning productivity in ways we can scarcely imagine. If we can ensure that students are connected to it through the help of teachers, (*continued on page 57*)

## SCOGGIN

(CONTINUED FROM  
PAGE 55)

printing press with movable type, to the newspaper, radio, television, and now the Internet, there have been subsequent dawns of a new information age. In this spirit, we don't need a jeremiad on the teacher versus the computer or on how screens in schools mark the end of Western civilization. If deployed properly, ed-tech can be an effective support to good teaching and content: taking over many mundane tasks from the teacher, serving as a coach-tutor that assesses and responds to a student's individual needs, and allowing teachers to share best practices and weave world-class expertise into lessons. As the learning scholars Frederick Hess and Bror Saxberg have clarified, schools and teachers that wisely use learning science to deploy tech in their classroom, as a craftsman uses the right tool at the right time, have a real shot at enhancing student engagement and results.

What we need to question is not the technology but rather

## Conversation and Community

Reed Hastings, the CEO of Netflix and a savvy education reformer, has talked about how software is best at teaching “subjects with correct answers,” and not so good, at least not yet, at clarifying subjects that require interpretation—helping us understand an Emily Dickinson poem, grasp the multifaceted complexity of the Civil War, or appreciate the nuances of a mathematical proof. Googling can tell you billions of facts, and adaptive software can coach you to shore up your gaps in algebraic skills, but it is in conversation and community that we wrestle with the real questions of humanity. What does it mean to be a human being? What is justice? Add to that the perennial moral questions we should ponder in our early years, such as what is my duty to myself, my family, my friends?

We have created the conditions in which our students have limitless access to information but limited capacity to organize, analyze, and understand it. The scarce quality among

In a time of increasing political and economic polarization,  
we need conversation, empathy, and character woven into our public life.  
Schools are uniquely suited to fostering such abilities and qualities.

the assumptions behind its use. Some educators, viewing ed-tech as a “silver bullet,” indiscriminately toss it in front of today's so-called digital natives, assuming that more gadgets equal more learning. The opposite may be true. According to a recent *Education Week* analysis of data from the National Assessment of Educational Progress, the shares of 4th- and 8th-grade students using computers for math instruction grew rapidly from 2009 to 2015. But the increased access has not led to “better” use, which the authors define as “activities that require critical thinking, such as making charts and graphs.” Instead, rote activities such as math drills and practice now occur more frequently, and “the gap between active and passive use has grown over time.”

As we sober up from the tech-infused party of the past 20 years, we should think about what should come first in our schools: shaping not just our students' ability to persevere and solve difficult problems but also their character—their empathic connection with others, their capacity to see our shared humanity, and their ability to problem solve with others for a common good. I believe this is the ultimate project of schooling in our democracy, and the misapplication of ed-tech will put it at risk. In a time of increasing political and economic polarization, we need conversation, empathy, and character woven into our public life. Schools are uniquely suited to fostering such abilities and qualities.

our children today is not intelligence but rather the ability to deliberate carefully, to see the multiple sides of an issue, and then to exercise sound judgment according to grounded values and proper ends. We sometimes call this capacity critical thinking, but when it's aligned to first principles (read: basic philosophical truths), the ancients called it wisdom.

Socrates put it another way: “Wisdom begins in wonder.” In the context of schooling, we must develop in our students the ability to step outside their own perspectives. They must be able to “de-self” in order to mature. As Aristotle observed, “It is the mark of an educated mind to be able to entertain a thought without accepting it.” This goes beyond critical thinking to heroic listening and rigorous empathy. In the study of literature, history, ethics, science, and the arts, we can convert our classrooms into mini-republics that reveal the best of human nature as we study it.

Can't this conversation and community be “virtual”? Don't social media serve as the new public square?

My response is to answer how Socrates would, with another question: can one *parent* virtually? Most of us would agree that good parenting requires direct human interaction. So, too, does education.

Building on the work of the sociologist James Davison Hunter, the *New York Times* columnist David Brooks talks about morally “thick” versus “thin” institutions. *(continued on page 58)*

**VANDER ARK**  
 (CONTINUED FROM  
 PAGE 55)

a natural balance between online and offline experiences will develop.

Unfortunately, the performance of digital technology in the classroom proved disappointing early on,

because its rapid influx into schools coincided with another dominant trend in U.S. public education: the national push for standards and accountability. Over the past 25 years, K–12 education has been shaped by these two forces, and neither has succeeded as well as hoped.

To step back for a moment: Under the leadership of Secretary of Education Richard Riley in the 1990s and his successors, Rod Paige, Margaret Spellings, and Arne Duncan, a bipartisan drive for better and more equitable student outcomes prevailed. Standards-based reform was fed by three factors: increased expectations for learning beyond high school, which led to a focus on college readiness for all; the availability of reliable and cheap measures of student

as the depersonalization of schooling wrought by technology. “Standards” and “technology” were often painted with the same brush.

But we have entered a new era. Today’s ed-tech offers unprecedented opportunities to improve the ways in which we educate our young people. It’s time to lean into these opportunities rather than reject them, particularly in light of these five key innovations and trends:

*Worldwide connectivity.* As it grows more sophisticated by the month, your mobile device is a powerful hub of seamless, synced, and simple-to-use tools. According to the technology-research firm Gartner, 20 billion devices will be connected by 2020. Cheaper, faster devices and nearly limitless data storage are accelerating the pace of change in every aspect of life, including schooling.

*Intimate computing.* We’re moving from personal to “intimate” computing, in which you know the technology, and it knows you. Soon, nearly everyone will have a digital “per-

New blended-learning models combine online and face-to-face activities  
to meet students where they are; help them move on when they’re ready;  
and expand access to electives, languages, and careers.

proficiency in reading and math; and the push for teacher and school accountability.

The standards movement did reap some laudable results: higher expectations for students, a commitment to equity, more measurement of student learning, and educational practices informed by data. However, the movement also had unintended consequences. Most notably, it bred a narrow focus on testing and compliance, often driving out creativity and collaboration rather than encouraging them.

The mid-1990s also saw the rise of the Internet and the first generation of mobile technology, which quickly led to more (connected) computers in the classroom. People in and out of school—at least those with broadband access—entered the anyone-can-learn-anything era. However, the first quarter century of tech-enabled learning in the schools was dampened by standards-based reforms, which not only locked in teaching to grade-level cohorts of students but also valued seat time over learning, proficiency over growth, and consumption over production. We learned that good teaching matters but forgot how important it is to give students agency over their own learning. Instead of encouraging innovation with the newly available tech tools, accountability systems based on narrow and dated measures tended to clamp down on new approaches. Many teachers decried the idea of “teaching to the test,” the new standards, and in turn, what they saw

sonal assistant” that will manage priorities, prompt as well as respond, span the personal and the professional, and continuously learn about the user’s information needs.

For more than 20 years, we have used a screen and mouse to navigate our computing experience. That experience is quickly becoming an omni-channel one with multiple communication points, including voice, touch, movement, and (if Elon Musk is right) even the brain itself. With a proliferation of sensors in all aspects of life, a personal interface will move seamlessly between home, transport, school, and workplace. Human-machine symbiosis will drive the automation economy.

*Experiential computing.* In the next three to five years, students will be immersed in augmented and virtual reality all day, every day, asserts Seth Andrew, founder of the Democracy Prep charter schools in Harlem and White House adviser to President Barack Obama. With virtual-reality technology, users wear special goggles and headsets to experience a simulated environment, be it a rainforest, the mouth of a volcano, or a space station. Augmented reality (AR), in contrast, doesn’t block out the user’s environment but adds to it, for instance, by inserting an interactive hologram into the person’s field of vision. Andrew is bullish on the potential of these technologies to deliver content, especially in career education, world languages, and certain electives. While he may be overreaching in his prediction of “all day, every day,” both (*continued on page 59*)



**SCOGGIN**(CONTINUED FROM  
PAGE 56)

“A thick institution becomes part of a person’s identity and engages the whole person: head, hands, heart and soul. So thick institutions have a physical location, often cramped, where members meet face to face on a regular basis, like a dinner table or a packed gym or assembly hall. . . . Thin organizations are more anonymous, ephemeral, transient, and transactional, while thick organizations think in terms of virtue and vice.”

of a brow and what is *not* said mean just as much as what is spoken; and where disagreement can squat in the room like the elephant it usually is and not be mouse-clicked away.

**Screens in Context**

At GreatHearts, the classical charter-school network I cofounded, we are certainly not against technology. We just believe in putting reflection and conversation first. Our high

At GreatHearts schools, students are asked to leave behind the neurochemical high of skimming, surfing, texting, and Snapchatting, and engage the frontal lobes of their brains.

The best schools have qualities in common with an extended family, a traveling sports team, or a military platoon. They are thick communities, where students and teachers celebrate and suffer together; where you know when someone is having a bad day and ask what you can do to help; where in the classroom adventure and risk, cheers, and even embarrassment are experienced directly; where the wrinkle

school students have at the center of their day a two-hour Socratic conversation on works of great literature, philosophy, and history. What’s more, teachers deploy Socratic pedagogy in all subjects, from music to physics. Students have periods of time away from their smartphones and tablets during the day, and first engage with one another and the subject matter, to think, to laugh, and even, sometimes, to be bored and figure (*continued on page 60*)



*At GreatHearts, high school students have at the center of their day a two-hour Socratic conversation on works of great literature, philosophy, and history.*

PHOTOGRAPH/ JARED PLATT; COURTESY GREAT HEARTS ACADEMIES

**VANDER ARK**  
 (CONTINUED FROM  
 PAGE 57)

virtual and augmented reality have much to offer in the classroom—or wherever future learning takes place (see “Virtual Reality Disruption,” *what next*, Fall 2016).

*Tech-facilitated personalized learning.* Proprietary reading and math systems that automatically adjust to the learner’s performance are already in wide use in K–12 classrooms, while fully adaptive learning-management systems are gaining

“show-what-you-know” world, where it matters less where you went to school and more what you know and can do. Micro-credentials are emerging as a new means of gauging content mastery (see “Competency-Based Learning for Teachers,” *what next*, Spring 2017). They are a digital form of certification that indicates when a person has demonstrated competency in a specific skill set. More and more, we will see such measures of competency replacing seat time as the indicator of academic progress.

The key to getting screen time right is to start by asking: What should young people know and be able to do? What kinds of experiences will help them develop important knowledge, skills, and dispositions?

a foothold there and in career and technical education. New blended-learning models combine online and face-to-face activities to meet students where they are; help them move on when they’re ready; and expand access to electives, languages, and careers. Still in its early days, personalized learning shows great promise for K–12 education.

*Competency and credentials.* We live in an increasingly

With personalized and competency-based models, learning can happen (and be assessed or demonstrated) anytime, anywhere. For example, LRNG is an online, national network of community-based learning opportunities for young people, especially the underserved. Some states will extend portability of education funding to community organizations with the expansion of education savings accounts. (*continued on page 61*)



*Virtual-reality technology allows users wearing special goggles and headsets to experience a simulated environment, be it a rainforest, the mouth of a volcano, or a space station.*

## SCOGGIN

(CONTINUED FROM  
PAGE 58)

out what they are going to do about it. They are asked to leave behind the neurochemical high of skimming, surfing, texting, and Snapchatting, and engage the frontal lobes of their brains, the executive functions of deep reading, intuiting first principles, problem solving, and recognizing the inherent value of the human beings in front of them.

And technology, when it is working well in the classroom, has a similar end. It draws us closer to the mystery and beauty of reality, as when an electron-microscope feed reveals the structure of a plant cell to a whole class at once (an aha moment on steroids), or when we watch the world's foremost geologist explain how volcanoes work, using high-def eruption footage to illustrate the talk. These tools and content, when used at the right moment for the right end, enable breakthrough epiphanies for students that stoke further conversation and questions.

Too often, however, the Internet and other digital technologies

have difficulty reading human emotions, including their own." Screens offer the "illusion of friendship without the demands of intimacy." However, Turkle goes on to say, "the same research gives cause for optimism. We are resilient. Face-to-face conversation leads to greater self-esteem and an improved ability to deal with others."

Accordingly, we need to create in-person, digital-free circles for conversation, at least until the digital realm shows us it can offer an authentic space for such exchanges. In these conversations, students can seek first to understand the perceptions and premises of classmates; to ask clarifying questions before making assertions; and to then assert from first principles, acknowledge ambiguity, respect others in disagreement, live at times in doubt, and allow multiple interpretations to exist even when convictions are confirmed. This unsettling process forms gentlemen and gentlewomen who have a capacity to govern themselves and others.

Great schools are the crossroads of the human condition.

The point is not to cordon students off from technology but to teach them how to go back and forth thoughtfully between media and understand the costs and benefits of each.

mainly serve to distract and numb us. Nicholas Carr, citing the science-fiction writer Cory Doctorow, calls them "an ecosystem of interruption technologies." In this light, an essential skill we can impart to our students is to recognize the difference between their digital experiences and other forms of knowing. The point is not to cordon students off from technology—that would be foolish—but to teach students how to go back and forth thoughtfully between various media and understand the costs and benefits of each. The student's job here is to cultivate the prudence to know when a digital experience can enhance, continue, or make possible interactions that would otherwise be forestalled, and, conversely, to know when a medium is being asked to do more than it should. For instance, students might use digital resources to conduct research and prepare for in-person conversations, then follow up on these dialogues with a class blog where they offer clarifications, share their writing, and develop seminar questions for the next convening. And coherent programs can be well supported by online learning and even some stand-alone online courses. "The development of a well-rounded mind," Carr posits, "requires both an ability to find and quickly parse a wide range of information and a capacity for open-ended reflection."

The MIT professor and author Sherry Turkle writes in *Reclaiming Conversation* that the new mediated life of *unreflective* turning to screens has gotten us into trouble. "Research shows that those who use social media the most

They are messy and vulnerable places where you are known by and know the other and which cannot be relegated to the ash heap of efficiency. And we who seek to bring classical education back to public life argue that at the table of these conversations should be what G. K. Chesterton called the "democracy of the dead," the great ideas and authors of the past. At GreatHearts, our students' fresh thoughts and voices are brought into dialogue with forefathers and foremothers who wrestled with the same enduring human questions that face us today. It is a joy to see students escape the tyranny of the present and their own very real and pressing concerns to ponder the permanent aspects of the human condition, both good and bad, and to grapple with what has been, what is, and what might be possible.

Tim Cook, CEO of Apple, said in his commencement address at MIT this spring: "I'm more concerned about people thinking like computers, without values or compassion or concern for the consequences. . . . That is what we need you to help us guard against. Because if science is a search in the darkness, then the humanities are a candle that shows us where we have been and the danger that lies ahead."

I hope that we can soon find a new path forward, a synthesis between the digital and the conversational. It will be this next generation of students, philosopher kings and queens, to borrow a conceit from Plato, who will solve for what is authentically human amid the conditions they did not create. ■



**VANDER ARK**  
 (CONTINUED FROM  
 PAGE 59)

**Getting Screen Time Right**

Given these emergent forces in technology, how can educators, policy leaders, and parents best deploy ed-tech to advance student learning and growth? The key to getting screen time right, in my view, is to start by asking: What should young people know and be able to do? What kinds of experiences will help them develop important knowledge, skills, and dispositions?

In addressing those questions, a new generation of schools is using models that combine the benefits of personalized learning—accurate diagnosis and individually paced content mastery—with the power of project-based learning—extended challenges that promote deeper-learning competencies such as critical thinking, working collaboratively, problem solving, and taking responsibility for one's own learning. These new models blend learning activities—long and short, online and offline, individual and team,

printed material and thinks schools should accommodate that as well.

“What facilitates empowerment?” Haglund asks himself. “What provides access to resources on and off campus? Young people need tools to connect, collaborate, gather feedback, and engage with people,” including those working in fields of interest to students. When employed toward these ends, technology can make learning more social instead of less so.

For instance, when Haglund was superintendent in Santa Ana, his 4th graders visited Disney Studios in Burbank. They produced their own films, screened them at a downtown theater, and shared them with producers in Santa Monica. Haglund watched his students engage with the producers in a professional way and then stay in touch for a month.

With all the excitement around virtual-reality field trips such as Google Expeditions, the Pokémon Go craze points to an even larger opportunity for augmented-reality field trips. Researcher Christopher Dede of Harvard has been working for more than a

Young people deserve learning experiences that will help them develop an innovation mindset and design-thinking skills that will enable them to flourish in the automation economy where they will work with smart machines.

production and consumption, discipline-based and integrated—into a productive sequence of personalized learning experiences.

The nearly 200 schools in the nonprofit New Tech Network (90 percent of them district schools) use personalized learning to prepare students for extended and integrated projects that build student agency, collaboration, critical thinking, and communication skills (the four outcome areas assessed for every project). This thoughtful blend has resulted in high rates of high-school graduation, college enrollment, and college persistence.

Increasingly, schools are using online learning-management systems such as Brooklyn LAB Charter School's Cortex and the Summit Learning platform (offered free to teacher teams that apply to Summit Public Schools) to deliver and organize custom playlists of activities for students and to allow educators to track students' progress incrementally (see “Pacesetter in Personalized Learning,” *features*, Fall 2017). Such platforms often include comprehensive curricula, student project ideas, and assessments.

The most effective blended-learning models use the best available tools to create the most optimal learner experiences while keeping adult guidance and peer relationships foremost. “It's not about the device, it's about the access the device facilitates,” says David Haglund, school superintendent in Pleasanton, California. Haglund believes in *purposeful* interaction. Sometimes that takes place online, but often it happens face to face. He acknowledges that some learners prefer reading

decade on outdoor AR science; now, mobile technology and a new sensor-rich world are making this kind of experience widely accessible. AR field trips are just the beginning of learning with smart machines in ways that blend online with real-world learning: fitness sensors that prompt activity, digital tools that support more effective team collaboration, real-time translation that kindles cross-cultural dialogue, robotic toys that spur computational thinking, and mobile apps that promote and analyze print reading.

**Parents and Teachers**

Technology is an amplifier. It can make good parents, teachers, and experiences better—or it can have the opposite effect. Mobile devices, games, and social applications are potentially addictive and can lead to unproductive or even dangerous behaviors. Again, the effective use of ed-tech requires thoughtful management and oversight by teachers and parents. Caring adults also need to help young people develop positive self-regulation habits.

Appropriate limits are essential, too. For instance, very young children who are developing language and motor skills should have little or no access to screens. And of course, schools need to establish guidelines for cybersafety and -security. Students and parents should be required to sign an acceptable-use form, teachers should create a culture of acceptable use, and schools should offer classes to parents on how (*continued on page 63*)



# The INDEPENDENT REVIEW

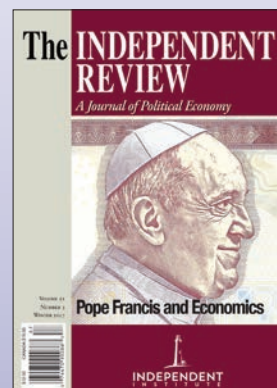
*A Journal of Political Economy*

Robert Higgs, Founding Editor

**SUBSCRIBE ONLINE NOW  
and Get a *FREE* book!**



**[independent.org/p/IRA1706](http://independent.org/p/IRA1706)**



Independent Institute  
100 Swan Way  
Oakland, CA 94621-1428

1-800-927-8733  
Phone: (510) 632-1366  
[info@independent.org](mailto:info@independent.org)

## VANDER ARK (CONTINUED FROM PAGE 61)

to supervise device use and be alert to possible problem behavior online. Parents wrestle with countless decisions about their children's education and learning. In choosing and advocating for the most powerful learning experiences for their kids, they might keep in mind the Nellie Mae Education Foundation's definition of *student-centered learning*: that which is personalized and competency-based; that happens anytime, anywhere; and that encourages students to take ownership of their own learning. All of these features require productive access to digital learning tools—and thoughtful advice from teachers and parents.

Leaders can create cultures where it's safe for teachers (and students) to iterate and learn. Schools can work with like-minded schools in networks to leverage learning models and tools. Professional learning can model the same blend of online and offline practices we want for students.

### Lean In

It's never been easier to code an app, start a business, wrangle a big data set, and apply powerful tools to address global

challenges. Young people deserve learning experiences that will help them develop an innovation mindset and design-thinking skills that will enable them to flourish in the automation economy where they will work with smart machines. Today's students are tomorrow's inventors, engineers, teachers, artists, and leaders. They need more from their schools.

A 2015 survey by Marc Brackett of Yale University asked 22,000 high-school students how they felt when they were in school. Their top responses were "tired," "stressed," and "bored." Without active engagement on the part of the student, learning stalls out. Rather than focusing on grades and test scores, students need opportunities to take on big issues, work with diverse teams, and produce innovations that will make their communities proud. Technology can help motivate and accelerate learning. It can help young people create and invent, launch social movements, and even contribute to solving global problems. That requires schools where young people are producers more than consumers, collaborators more than observers, game makers more than game players.

It's time for us as teachers and parents to lean in rather than push back. More than ever, we need to be intentional about how and when young people use technology and make it *productive* time, not a waste of time. ■



PROCON.ORG

THE LEADING SOURCE FOR PROS AND CONS  
OF CONTROVERSIAL ISSUES

**We research controversial issues and present them in a balanced and primarily pro-con format at no charge.**

### Dr. Jonathan Haidt calls ProCon.org the "best antidote" to bias

"Among the biggest obstacles to good thinking is what we psychologists call 'the confirmation bias.' It's the tendency to seek out only information that confirms your existing beliefs. ProCon.org is the best antidote to this bias that I have seen. It's not just that it puts disconfirming information right there on the page, where it can't be missed. It's that ProCon.org models open-mindedness, respect for the complexity of truth, and respect for the sincerity of people on both sides of controversial issues. ProCon.org is a boon to our ailing civic culture."



PROCON.ORG



Free



Nonpartisan



Sourced



Common Core  
Friendly