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EDUCATION

Digital Natives, Yet Strangers to the Web

Today's schools are focusing on boosting kids' technological proficiency and warning them about the perils of the web. But something critical is missing from this education.



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When Reuben Loewy took up his first teaching gig in 2012, he had a major revelation: The digital revolution has dramatically transformed the way that kids perceive reality.

Perhaps that makes the 55-year-old teacher sound like a dinosaur. What he discovered is, after all, one of the most obvious realities shaping education policy and parenting guides today. But, as Loewy will clarify, his revelation wasn't simply that technology is overhauling America's classrooms and redefining childhood and adolescence. Rather, he was hit with the epiphany that efforts in schools to embrace these shifts are, by and large, focusing on the wrong objectives: equipping kids with fancy gadgets and then making sure the students use those gadgets appropriately and effectively. Loewy half-jokingly compares the state of digital learning in America's schools to that of sex ed, which, as one NYU education professor [describes](#) it, entails "a smattering of information about their reproductive organs and a set of stern warnings about putting them to use."

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Indeed, although many of today's teens are immersed in social media, that doesn't mean "that they inherently have the knowledge or skills to make the most of their online experiences," writes Danah Boyd in her 2014 book [It's Complicated: The Secret Lives of Networked Teens](#). Boyd, who works as a principal researcher at Microsoft Research, argues that "the rhetoric of 'digital natives'" is dangerous because it distorts the realities of kids' virtual lives, the result being that they don't learn what they need to know about online living. In other words, it falsely assumes that today's students intrinsically understand the nuanced ways in which technologies shape the human experience—how they influence an individual's identity, for example, or how they advance and stymie social progress—as well as the means by which information spreads thanks to phenomena such as algorithms and advertising. Loewy decided that this void

could be eliminated with an honest, interdisciplinary high-school curriculum for the digital age—a program that would fundamentally shift how schools address kids' virtual experiences.

Kids are learning a distorted view of the digital world "that reflects the fears of adults rather than the aspirations of youth."

Educational institutions across the board are certainly embracing (or at least acknowledging) the digital revolution, adopting cutting-edge classroom technology and raising awareness about the perils and possibilities of the Internet. On the one end are the movement's champions—the schools where [every child has an iPad](#) or the education departments with bureaucrats who go by fancy titles like "[Director of Innovative Learning](#)." In some school districts, virtual courses are [a prerequisite for graduation](#), and it's [become almost cliché](#) for teachers [to incorporate Minecraft](#) into their instruction. Meanwhile, schools are [phasing out physical textbooks](#), sometimes replacing them with artificially intelligent software. It's hardly surprising that one-third of the country's students in grades six through 12 use school-provided mobile devices to support coursework, according to [a 2014 report](#) by the nonprofit Project Tomorrow.

On the other end are the skeptics, among them the adults who fear that kids are being thrust into a world of cyberbullies and pedophiles. A [2012 Pew Research survey](#) of roughly 800 U.S. parents and their teenage children found that eight in 10 parents are concerned about their kids' Internet privacy, while seven in 10 said they worried about their kids interacting with strangers online. As Hanna Rosin explained in [a cover story](#) for *The Atlantic* last November about teenage sexting, adults often respond to such scandals with fearmongering and massive information campaigns. The National Association of School Psychologists has helped to develop a [curriculum](#) devoted exclusively to raising cyberbullying

awareness, while myriad apps have been developed that allow parents to track their children's digital footprints. According to the Pew report, half of the parents surveyed said they had used parental controls or other means of blocking, filtering, or monitoring their teens' online activities.



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And then there are the educators who worry—arguably for good reason—that the digitalization of classrooms [is severely undermining](#) their pedagogy. At the higher-ed level, some professors have even [published manifestos](#) on why they're banning laptops from their lecture courses, while many K-12 campuses to this day [maintain no-device policies](#) (though it appears such policies are [becoming obsolete](#)).

According to Loewy, this dichotomy amounts to a major missed opportunity. Kids not only need to be proficient in how to use digital technology, becoming savvy coders and prolific ebook readers, he explains—they also need to deeply, holistically, and realistically understand how the digital world works behind the scenes. And that doesn't only mean realizing that [sexting is a victimizing and punishable offense](#) with long-term repercussions. Or that social media [can be addictive](#) and full of predators. While it's undoubtedly important to keep kids safe when they're online, these focuses give kids "a distorted view of the digital world," Loewy writes. "It is a view that reflects the fears of adults rather than the aspirations of youth."

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Loewy was teaching a summer journalism class for middle-schoolers in Princeton, New Jersey, when he had his epiphany. "This generation has grown up with a completely different type of relationship to the media," he said. "They have not seen a newspaper other than their parents reading one. They don't even watch television—everything is Internet-based." And while such a statement might conjure images of a curmudgeonly cynic convinced that technology is an assault on human intellect, Loewy sees that transformation as positive—or, at least, inevitable. It's just that today's kids need much more guidance on how to live within this world, he argues. "They are consuming and seeing so many things online that they don't know how to put it into context or how to evaluate it," he said.

At the same time, "even schools that have called themselves very technologically advanced haven't even begun to explore how they actually teach [about that technology]," he said. They may hand out iPads or laptops to students, but such education often stops at the hardware. "Curriculum is the microcosm of what's going on in society; I think that curriculum needs to catch up with the reality."

Boyd, it's worth noting, draws similar conclusions:

Teens will not become critical contributors to this [Internet] ecosystem simply because they were born in an age when these technologies were

pervasive.

Neither teens nor adults are monolithic, and there is no magical relation between skills and age. Whether in school or in informal settings, youth need opportunities to develop the skills and knowledge to engage with temporary technology effectively and meaningfully. Becoming literate in a networked age requires hard work, regardless of age.

After his revelation, Loewy, who spent most of his career [as a foreign correspondent](#) writing for major British and Canadian newspapers, started developing what he's now calling "an interdisciplinary curriculum for the digital age," a.k.a. "[Living Online](#)." The curriculum, which is designed primarily for high-school students (though he says it can be adapted for younger kids, too), includes a dozen teaching modules that would be integrated into various classes—from "Privacy" and "A is for Algorithm" to "Digital Activism" and "Cyberpsychology." Other units under development include "Remix Culture," "Gaming in Education," and "Reality—Virtual/Actual." In some ways, it could be described as the liberal arts of virtual living.

Only a fourth of teachers say digital citizenship is taught at their schools.

The curriculum's first unit—"Identity"—aims to give students insight "into how their identities may be unconsciously shaped by digital media and online socialization." The module highlights opposing perspectives on the topic, from that entertained by people like Facebook founder Mark Zuckerberg, who insists users should only have one authentic identity, to the view that individuals are multifaceted and prismatic. "We will examine how individuals craft and express

their identities across multiple online and offline contexts," the summary says, "and discuss the implications of having different identities, avatars, and facets of ourselves across different networks." The idea is to get past the emphasis that adults often make on the perils of Internet identity, to show kids that they're in a process of discovery and can play with and explore different personas—even if that means an adolescent boy posing online as a 35-year-old woman. And this, to Loewy, is a good thing: "It's a part of experimenting, exploring who you are, and getting the opportunity to interact with people you normally wouldn't interact with."

Meanwhile, in the unit titled "Economy of the Internet," kids would learn about the role of advertising in the World Wide Web: how websites generate money by attracting visitors and then sell those visitors' personal data. The unit called "Diversity of Thought: Breaking Out of the Bubble" aims to have teens analyze debates about whether digital technology makes users more open-minded or more enclosed in their world views, while that on "Digital Disruption" would use case studies such as Netflix and Uber to explore how these forces destruct and create.

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The idea behind Living Online is by no means new. The University of Pennsylvania English professor Kenneth Goldsmith launched a course this school year called "[Wasting Time on the Internet](#)," which requires students to watch YouTube videos, tweet, and even plagiarize. [Explaining](#) the course's objective to *The Atlantic* last December, Goldsmith said, "it's [about] understanding that digital existence ... You know, we've become so good at using tools, but we've rarely stepped back to consider how and why we're using those tools."

Two years ago, one well-known Florida teacher reasoned [in a blog post](#) that the country needs "a coherent plan to teach digital citizenship in schools"—not as an add-on but as a complement to what's already being taught in the classroom.

Such citizenship, she said, "is not about the technology itself but rather the effects that arise from its usage." And just a few days ago, the Harvard Internet-law professor Jonathan Zittrain posted a [video message](#) on YouTube that coincidentally sounded a lot like Loewy's elevator pitch for the unit titled "Wikipedia and Open-Source Knowledge." Highlighting the success of the site and lamenting the ineffectiveness of American public education, Zittrain—who authored the 2008 book *The Future of the Internet and How to Stop It*—suggested that schools integrate Wikipedia into their curricula, asking kids to edit articles and make the case for their edits. He continued:

To me, if I think of an advanced civics class, it's great to learn that there are three branches of government and X vote overrides a veto. But having the civics of a collective hallucination like Wikipedia also a part of the curriculum, I think, would be valuable.

But for various reasons, schools have yet to catch on. Data on how much, if at all, schools in the U.S. are teaching these things doesn't exist, but it's worth noting that even the much more obvious subject—computer science—is still largely considered a peripheral course. A [2013 survey](#) of 1,250 educators nationwide found that more than a fourth of them worked on campuses that didn't even offer computer science. Meanwhile, national initiatives to modernize schools—through projects such as The Center for Digital Education's "[Curriculum of the Future](#)"—rarely touch on the liberal arts of virtual living, focusing strictly on topics like new technologies and workforce preparation. According to a [2012 report](#) from Common Sense Media based on survey of nearly 700 K-12 U.S. teachers, more than half of them ranked their students' digital-citizenship skills as fair or poor; only a fourth of them said those skills were taught at their schools.

Adults' resistance to new trends, too, is surely part of the reason why schools

haven't addressed these needs. For one, Loewy suggests that many educators don't feel digitally literate. A shrinking but still relatively significant percentage of educators—especially those who are 55 and older—don't feel confident with these new technologies, according to a 2013 Pew Research survey among roughly 2,500 A.P. and writing teachers. Meanwhile, many teachers simply feel overburdened by the new technology: Three-fourths of the educators surveyed for the same Pew report say the Internet and other digital tools "have added major demands to their lives," largely by "increasing the range of content and skills about which they must be knowledgeable."

"I'm appalled that we talk about technology as if it's a discipline or a school subject ... It's a little bit like worshipping a pencil."

Indeed, experienced and accomplished teachers continue to raise questions about schools' embrace of digital technology, which could mean that Loewy's effort is moot. Nancie Atwell, a veteran language-arts teacher who last month [won the inaugural Global Teacher Prize](#), is one of many educators across the country who are deeply concerned about the growing role digital devices are playing in classrooms, primarily because of their arguably negative impact on cognition and learning. "Although the world may be digital, it also remains human," she said. "The emphasis on any device as a panacea—give one to every kid and see what happens—completely ignores everything we know about what motivates people to learn."

"These are devices—they're a means to an end," she continued. "I'm appalled that we talk about technology as if it's a discipline or a school subject or a content area. It's a way of developing or displaying knowledge. It's a little bit like worshipping a pencil."

Perceptions like these, according to Loewy, are a large reason why rolling out the curriculum is so tricky. It's a chicken-or-the-egg problem: Living Online—and the teacher training that would come with it—could help bring everyone, from the skeptics to the overzealous techies, on the same page and alleviate some of the concerns and misconceptions about the technology. But it's hard to get people on board if they have preconceived notions, many of which are well-founded, about those devices and apps to begin with.

And for now, Living Online is little more than an idea—and one, critics might argue, that's neither feasible nor credible. After all, Loewy is a Baby Boomer with very limited experience as a classroom teacher.

But that hasn't fazed the former journalist, who admitted that he's been developing the program using his own money. (Loewy doesn't want public schools to pay for the curriculum out of their operating budgets—he hopes private foundations will foot the bill—but has yet to secure a grant.) Loewy says he's devoted the bulk of his time over the last few years to creating this program, which he's been putting together with the help of feedback from teachers and professional curriculum developers via education conferences and the range of support and sharing sites available online. He's currently in the process of registering Living Online, which was launched in 2013, as a nonprofit, and as of now the organization only has three board members—none of whom are teachers (and all of whom are men). They include [Martin Schneiderman](#), an IT advisor who works with philanthropic organizations; [Peter Lammer](#), who co-founded the IT-security company Sophos; and [David Loevner](#), the manager and founder of a global investment firm. Loewy says he hopes to bring on a group of advisors, including teachers, with diverse backgrounds.

"Without the knowledge, you're not able to take advantage of the web and navigate it properly."

The curriculum faces a range of other logistical obstacles, too, including the number of existing requirements that schools are already grappling to juggle. Loewy sees the curriculum as being incorporated into other classes, not as a standalone supplement but as an ingredient built into larger coursework. Still, public-school teachers today say they are already overburdened by a slew of expectations—from the Common Core math and reading standards to additional state and local stipulations. Educators across the country have long complained about their inability to teach subjects as essential as [social studies](#). In that sense, it's hard to imagine this program becoming a reality outside of the private-school sector; in fact, Loewy's only been able to pilot the modules with private-school students.

And even if teachers could find a way to incorporate the curriculum into their classes, they'd have to find a way to keep up with material and technologies that are constantly changing. "The ... problem is that it's evolving every single day—it's not like teaching ancient Rome, it's not static," Loewy acknowledged. "This is what I think holds back the progress: Every single day there is a new app, and teachers [can] become sort of blinded by" its merits and limitations. But without understanding the intricacies and dynamics of the Internet, he continued, "you're not taking advantage of everything digital technology offers. Without the knowledge, you're not able to take advantage of the web and navigate it properly. You can't be an informed, responsible, and critical member of society if you don't have the education."



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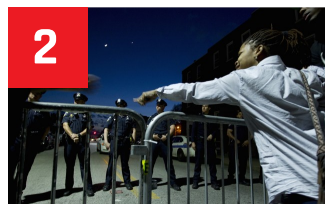
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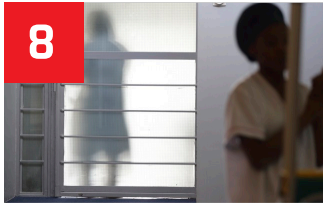
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