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Education Needs a Digital-Age Upgrade

By [VIRGINIA HEFFERNAN](#)

[Virginia Heffernan](#) on digital and pop culture.

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If you have a child entering grade school this fall, file away just one number with all those back-to-school forms: 65 percent.

Chances are just that good that, in spite of anything you do, little Oliver or Abigail won't end up a doctor or lawyer — or, indeed, anything else you've ever heard of. According to Cathy N. Davidson, co-director of the annual MacArthur Foundation Digital Media and Learning Competitions, fully 65 percent of today's grade-school kids may end up doing work that hasn't been invented yet.

So Abigail won't be doing genetic counseling. Oliver won't be developing Android apps for currency traders or co-chairing Google's philanthropic division. Even those digital-age careers will be old hat. Maybe the grown-up Oliver and Abigail will program Web-enabled barrettes or quilt with scraps of Berber tents. Or maybe they'll be plying a trade none of us old-timers will even recognize as work.

For those two-thirds of grade-school kids, if for no one else, it's high time we redesigned American education.

As Ms. Davidson puts it: "Pundits may be asking if the Internet is bad for our children's mental development, but the better question is whether the form of learning and knowledge-making we are instilling in our children is useful to their future."

In her galvanic new book, "Now You See It," Ms. Davidson asks, and ingeniously answers, that question. One of the nation's great digital minds, she has written an immensely enjoyable omnimanifesto that's officially about the brain science of attention. But the book also challenges nearly every assumption about American education.

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Don't worry: She doesn't conclude that students should study Photoshop instead of geometry, or Linux instead of Pax Romana. What she recommends, in fact, looks much more like a classical education than it does the industrial-era holdover system that still informs our unrenovated classrooms.

Simply put, we can't keep preparing students for a world that doesn't exist. We can't keep ignoring the formidable cognitive skills they're developing on their own. And above all, we must stop disparaging digital prowess just because some of us over 40 don't happen to possess it. An institutional grudge match with the young can sabotage an entire culture.

When we criticize students for making digital videos instead of reading "Gravity's Rainbow," or squabbling on [Politico.com](#) instead of watching "The Candidate," we are blinding ourselves to the world as it is. And then we're punishing students for our blindness. Those hallowed artifacts — the Thomas Pynchon novel and the Michael Ritchie film — had a place in earlier social environments. While they may one day resurface as relevant, they are now chiefly of interest to cultural historians. But digital video and Web politics are intellectually robust and stimulating, profitable and even pleasurable.

The contemporary American classroom, with its grades and deference to the clock, is an inheritance from the late 19th century. During that period of titanic change, machines suddenly needed to run on time. Individual workers needed to willingly perform discrete operations as opposed to whole jobs. The industrial-era classroom, as a training ground for future factory workers, was retooled to teach tasks, obedience, hierarchy and schedules.

That curriculum represented a dramatic departure from earlier approaches to education. In "Now You See It," Ms. Davidson cites the elite Socratic system of questions and answers, the agrarian method of problem-solving and the apprenticeship program of imitating a master. It's possible that *any* of these educational approaches would be more appropriate to the digital era than the one we have now.

To take an example of just one classroom convention that might be inhibiting today's students: Teachers and professors regularly ask students to write papers. Semester after semester, year after year, "papers" are styled as the highest form of writing. And semester after semester, teachers and professors are freshly appalled when they turn up terrible.

Ms. Davidson herself was appalled not long ago when her students at Duke, who produced witty and incisive blogs for their peers, turned in disgraceful, unpublishable term papers. But instead of simply carping about students with colleagues in the great faculty-lounge tradition, Ms. Davidson questioned the whole form of the research paper. "What if bad writing is a product of the form of writing required in school — the term paper — and not necessarily intrinsic to a

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student's natural writing style or thought process?" She adds: "What if 'research paper' is a category that invites, even requires, linguistic and syntactic gobbledygook?"

What if, indeed. After studying the matter, Ms. Davidson concluded, "Online blogs directed at peers exhibit fewer typographical and factual errors, less plagiarism, and generally better, more elegant and persuasive prose than classroom assignments by the same writers."

In response to this and other research and classroom discoveries, Ms. Davidson has proposed various ways to overhaul schoolwork, grading and testing. Her recommendations center on one of the most astounding revelations of the digital age: Even academically reticent students publish work prolifically, subject it to critique and improve it on the Internet. This goes for everything from political commentary to still photography to satirical videos — all the stuff that parents and teachers habitually read as "distraction."

A classroom suited to today's students should deemphasize solitary piecework. It should facilitate the kind of collaboration that helps individuals compensate for their blindspots, instead of cultivating them. That classroom needs new ways of measuring progress, tailored to digital times — rather than to the industrial age or to some artsy utopia where everyone gets an Awesome for effort.

The new classroom should teach the huge array of complex skills that come under the heading of digital literacy. And it should make students accountable on the Web, where they should regularly be aiming, from grade-school on, to contribute to a wide range of wiki projects.

As scholarly as "Now You See It" is — as rooted in field experience, as well as rigorous history, philosophy and science — this book about education happens to double as an optimistic, even thrilling, summer read. It supplies reasons for hope about the future. Take it to the beach. That much hope, plus that much scholarship, amounts to a distinctly unguilty pleasure.

Education Needs a Digital-Age Upgrade - Free download as Word Doc (.doc), PDF File (.pdf), Text File (.txt) or read online for free. It's possible that any of these educational approaches would be more appropriate to the digital era than the one we have now. To take an example of just one classroom convention that might be inhibiting today's students: Teachers and professors regularly ask students to write papers. Semester after semester, year after year, papers are styled as the highest form of writing. And semester after semester, teachers and professors are freshly appalled when they turn up terrible. Ms. Davidson herself was appalled not long ago when her students at Duke, who produced witty and incisive blogs for their p Learning and education is one of those industries wherein innovations in technology are still to make a significant impact. India, with over 500 million people below the age of 25, probably offers the maximum potential and opportunity for education technology to make a lasting impact. With less than 4% of GDP being spent on education and complexity around private investment, the country lacks funds for building adequate infrastructure. In one of its reports, the National Knowledge Commission (NKC) estimated that India needs 1,500 universities to meet its gross enrolment ratio (GER) target of 30% in higher education, at an overall investment of \$190 billion (National University of Educational Planning and Administration estimate). Practical technical knowledge also needs to be integrated into many fields of education. Coding and data analytics seem a good starting point. But, we also need to think about other skills and capacities that are important in a world of unprecedented change. The focus should be on building skills that will assist the next generation in making the right decisions under conditions of extreme uncertainty. They belong to a culture that has no memory of a pre-Internet age. They are totally immersed in a digital culture and all its relatively "effortless" possibilities. The risk for universities is that if they don't adapt to this new reality, they will go the way of the "dinosaurs". Lumbering giants ill-suited to a different and fast-changing environment. Educational systems do not provide an appropriate education for the new digital age. The World Economic Forum concludes in one of their studies that the system is failing to prepare the young people to be good professionals in the future. This study also introduces some ideas to align education and training with the requirements professionals will need within a few years. This new age is usually called the Fourth Industrial Revolution. Artificial Intelligence and Digital Platforms are making this new stage in history. They are responsible for a radical transformation in the way we communicate, Opinionator | Education Needs a Digital-Age Upgrade. Email. Share. That classroom needs new ways of measuring progress, tailored to digital times "rather than to the industrial age or to some artsy utopia where everyone gets an Awesome for effort. The new classroom should teach the huge array of complex skills that come under the heading of digital literacy. And it should make students accountable on the Web, where they should regularly be aiming, from grade-school on, to contribute to a wide range of wiki projects. As scholarly as "Now You See It" is "as rooted in field experience, as well as rigorous history, philosophy and science" this book about educa...