*Larry Berger checks on a scrum board where a multitude of sticky notes assist the teams at Amplify in tracking the progress of their projects.*

# For
# Education Entrepreneurs,
# Innovation Yields High Returns

**Entrepreneurs** are having a heyday. Mark Zuckerberg of Facebook graced the cover of *Time* magazine as Person of the Year, Ashton Kutcher played Steve Jobs of Apple in a recent biopic, and Amazon's Jeff Bezos even bought the venerable *Washington Post*. Our culture is enamored with the idea that a visionary individual can create a brand-new business that not only makes it big, but also makes a big difference in the way we live and work.

Meanwhile, few sectors are more desperate for new ideas than the $600 billion system of K–12 public education. Many intrepid entrepreneurs have waded into the waters, hoping to improve outcomes for students. And many have failed or faltered in attempting to address an institution that "alienates creative problem solvers while erecting bureaucratic barriers against those who would devise new solutions," as Frederick Hess and Chester Finn wrote in these pages a few years back ("What Innovators Can, and Cannot, Do," *forum*, Spring 2007).

Education entrepreneurs create either a for-profit or nonprofit enterprise, based on their fundraising needs, the revenue model that will suit their product or service, and

## Learning from Larry Berger, Jonathan Harber, and Ron Packard

the employees they hope to entice. Those who take the for-profit route face mistrust on the part of policymakers and many parents, and for-profit ventures have consequently been prevented from participating in federal grant programs like Investing in Innovation (i3) and barred from operating charter schools in some states.

Despite a surge in education entrepreneurship over the last several decades, for-profit education ventures have received far lower levels of investment than those in

by JULIE LANDRY PETERSEN

telecommunications, medicine, and energy. When they need new products, school and district administrators often choose to develop solutions in-house or buy from one of the big publishing companies rather than take a chance on a new, possibly untested, innovation. Not surprisingly, it has been difficult for entrepreneurs to persuade individual angel investors and venture capital firms to back their ideas with funding. Willing investors give a company money in exchange for equity (a share of ownership in the company), figuring that if the venture does well they'll recover their investment at a premium once the company is either sold or sells its shares on the public market (known as an "exit"). But there is often little patience among investors for the slow growth required to create a high-quality education product and to develop trust among school, district, and parent customers (and earn revenues).

In the late 1990s, investments in e-learning companies and for-profit school management firms surged along with those in Internet companies. The public stock market saw 11 initial public offerings (IPOs) of education companies in 2000 alone. Most education companies founded and funded during that time went bust (although a few of those left standing eventually became success stories, as I'll show below), leaving entrepreneurs and investors alike gun-shy about venturing into the sector for most of the last decade.

By most accounts, however, the economics of education investing are changing. Schools are now wired and have accountability incentives to invest in technology to boost student achievement, while teachers are ready to experiment with new tools. For start-ups, hardware costs have come down and software is cheaper than ever to develop. Longtime education banker Michael Moe of GSV Capital says a higher quality of entrepreneurs is entering the space. Consequently, education technology companies raised $1.1 billion in funding from venture capitalists in 2012, more than double the amount raised the prior year and nearly 10 times as much as a decade earlier. Today's education entrepreneurs and the investors who back them believe they can avoid the mistakes of their predecessors and find their place among the 20 or so percent of companies that succeed.

In this article, I look at three entrepreneurs who have recently succeeded, with an eye toward understanding what made them successful and what that might tell us about the future of innovation in education. These companies have all exited in the last five years, bringing in hundreds of millions of dollars and earning sizable returns for their investors and their founding teams (see Table 1). What can we learn from them about what it takes to have a significant impact on K–12 education?

## Three Success Stories (Table 1)

| Entrepreneur and company (year founded) | Total venture capital raised | Exit story | Revenues and reach at exit | Revenues and reach today |
|---|---|---|---|---|
| Larry Berger, Wireless Generation (2000) | $17 million | Sold to News Corporation in 2010 for $390 million | $60 million[1] Reached 3 million students and 200,000 educators | <$121 million[2] Now reaches 3 million students and 200,000 educators |
| Jonathan Harber, SchoolNet (1998) | $30 million | Sold to Pearson in 2011 for $230 million | ~$75 million[3] Reached 5 million students | Unknown[4] Now reaches 11 million students |
| Ron Packard, K12 (2000) | $40 million | Raised $108 million in 2007 IPO | $162 million Reached 27,000 students | $848 million Now reaches 118,000 students |

[1] News Corporation did not disclose Wireless Generation's revenues at the time of acquisition, but sources familiar with the business estimate revenues at $60 million. See http://finance.fortune.cnn.com/2010/11/23/news-corp-deal-for-wireless-generation-is-great-but-doesnt-make-sense/

[2] News Corporation will not disclose Amplify's revenues, but documents filed with the Securities and Exchange Commission indicate that Amplify is the main component of the company's "Other" segment, which generated $121 million in revenues in Fiscal 2013. See http://investors.newscorp.com/secfiling.cfm?filingID=1193125-13-373501&CIK=1564708

[3] Pearson did not disclose SchoolNet's revenues at the time of acquisition, but sources familiar with the business estimate revenues at $70-$85 million. See http://blog-next.learnboost.com/thoughts-on-pearson-acquisition-of-schoolnet/

[4] Pearson will not break out the exact revenues of SchoolNet. Pearson's North American Education business brings in about $4 billion annually but includes not only the technologies Harber oversees but also its textbook publishing and assessment contracts.

## The Data Guys:
### Larry Berger and Jonathan Harber

As the disciples of innovation scholar Clayton Christensen know, market-leading companies are rarely the ones that invent the future. Although large technology companies like IBM often work with school systems, the real pioneers in the use of technology and data in education have been start-ups. The founders of Wireless Generation and SchoolNet, respectively, took into account the ways in which teachers and schools wanted to work with data (and, crucially, the ways in which school systems were able to pay for them) rather than bolting existing technologies onto the desks of teachers and administrators.

Most people trying to incorporate technology into schooling in the 1990s were focused on instruction, recalls Larry Berger, who started Wireless Generation with Greg Gunn, a graduate-school friend. But in other fields, he observes, "much of the success technology had had was in automating the workflow behind the scenes." Berger and Gunn worked together at a web development company and also created an online presence for actor Paul Newman's Hole in the Wall Gang camp for children with serious illnesses. After observing that new Internet-connected mobile devices might be better suited than desktop computers to the needs of teachers, they began in 1998 to pursue their longtime dream of starting an education company together. On nights and weekends, they worked on the business plan, eventually raising $17 million from individual investors and Seavest Capital, as well as from the W. K. Kellogg Foundation. Their very first check was from then Qualcomm CEO Irwin Jacobs, who a few days after a brief pitch meeting with Berger sent a check for $250,000 along with a Post-it note: "Let me know what percent of your company I bought."

that teachers use to capture students' early-learning progress. When demand for the products emerged faster than did satisfactory deals with publishers, Wireless Generation shifted its strategy and built a sales team.

They quickly found that in order to succeed in public education, they would need to be attentive to public policies that would drive demand and funding for their products. Wireless Generation employees pored over the No Child Left Behind Act (NCLB) the night it was signed, looking for potential opportunities, and found that the act's Reading First component "created an unusual amount of liquidity centralized at the state level (about $200 million per year) that did not already have a bureaucracy trained to spend it," as Berger has written. Wireless Generation went on to secure at least 18 state contracts, including those of New Mexico and Ohio.

By 2010, the company had grown to 350 employees and an estimated $60 million in annual revenue, including a sizable contract with the New York City Department of Education to build its Achievement Reporting and Innovation System (ARIS) as an IBM subcontractor. "What impressed us with Larry was his largeness of vision," says Tony Berkley, who spearheaded a $5 million convertible loan from the W. K. Kellogg Foundation's Mission-Driven Investments portfolio in mid-2010. "He had built a company that was trying to tackle teacher effectiveness and accountability and innovation in the curriculum market—pretty much all the big challenges in education."

That year, several publishers as well as media conglomerate News Corporation approached Wireless Generation with acquisition offers. The highest bidder was News Corporation, with a $360 million deal that allowed Berger, COO Josh Reibel, and chief product officer Laurence Holt to collectively maintain a 10 percent stake. (Gunn left the company prior to the acquisition for an entrepreneur-in-residence position

> "You have to love what you're doing, because education is not the fastest-moving or simplest market," says Berger.

Berger says he and Gunn planned to develop mobile-friendly applications that would harness the power of the Internet to change the way teachers worked in the classroom. "We liked the idea of creating tools that would make teachers feel more empowered rather than cost them a lot of time and somehow feel less empowered," he says. Initially, the founders set out to distribute their applications through existing channels, such as publishers. Their first product, mCLASS, automated the burdensome paper-based "running record"

at double-bottom-line venture firm City Light Capital.) "We figured [the purchase] would let us do bigger and better and more exciting things," says Berger, noting that News Corporation's offer was the only one that kept the company and its technologies intact rather than integrating them into existing products.

The reaction in the education entrepreneurship community was pleasant surprise, though some were skeptical about News Corporation's entry into the education sector, including

the state of New York, which pulled a planned $27 million state data-system contract away from Wireless Generation in 2011. Today, Wireless Generation's technology underpins News Corporation's Amplify division, which is run by former New York City schools chancellor Joel Klein (who joined the company as CEO of the division a few weeks before the acquisition, though the deal was already underway at the time). Amplify delivers not just software but also customized tablet computers to schools, along with Common Core–aligned content developed by the Core Knowledge Foundation. Amplify's large tablet rollout, in Guilford County, North Carolina, hit



*Jonathan Harber at the National Summit convened by the Detroit Economic Club, June 15-17, 2009*

PHOTO / DETROIT ECONOMIC CLUB

the skids in late 2013: the district planned to spend half of its $30 million Race to the Top grant to buy 20,000 of Amplify's tablet computers, but suspended the effort in October due to persistent hardware malfunctions.

Berger is now president of Amplify Learning, the piece of the business focused on curriculum, which may suit his taste for digging into teachers' needs. "I found Larry Berger to be a very quick study in grasping the cognitive science behind

our work," says E. D. Hirsch, founder of the Core Knowledge Foundation. "His flexibility and imagination were a breath of fresh air for me."

Berkley of the Kellogg Foundation, which has already recovered its original loan at a premium, believes Wireless Generation's best days are ahead, as its team acts as an "innovation engine" for News Corporation. "Their first innovations aren't the story; it's the ability of the team to keep innovating over time," he says.

Akin to Berger and Gunn, SchoolNet's Jonathan Harber recalls that he has also been fascinated by technology and education, particularly "how computers can both mimic how people learn and think, and how can they assist in peoples' learning and thinking." After a summer job in high school researching the synapses of giant sea slugs, Harber studied (human) cognitive science at Wesleyan University and at the Massachusetts Institute of Technology before starting several educational software and video-game companies.

But when Harber began to investigate applying technology to the needs of low-income schools and districts, the first consultant he hired had a significantly different background: Denis Doyle was a former federal government official and think tank scholar who had co-written books with business leaders about the need for education reform (including *Reinventing Education*, with IBM CEO Lou Gerstner). As he and Doyle worked—like Berger and Gunn, outside of their day jobs—to develop the plan for SchoolNet, they met with superintendents to learn about their needs.

"I was amazed to hear [superintendents] talk about the achievement gap," recalls Harber. "Some would say, 'I have no idea how many students I have, let alone what they're achieving,' and others would say, 'achievement isn't my job.' They had a ton of data, but it was designed for compliance purposes, not achievement."

SchoolNet opened for business officially when it responded to and won a request for proposals from the tiny school district of Beaufort, South Carolina, to create "an enterprise

## The entrepreneurs profiled spent at least seven years with the original business rather than jumping ship. That shows commitment.

resource planning (ERP) system for curriculum and academics." SchoolNet's first funding came soon after, from friends and angel investors; over time, the company raised $30 million from investors, including Seavest Capital, which also backed Wireless Generation. In its early days, Harber found his fledgling company competing against large business-software providers that built systems to hold basic student and school data, and against publishing and assessment companies that delivered year-end high-stakes tests. The "gaping hole" Harber saw was for systems that could capture, analyze, and report formative data quickly to allow teachers and principals to make instructional changes accordingly, a gap that grew even wider when NCLB began to shine a spotlight on the dismal progress of student subgroups and put pressure on schools to improve their performance.

SchoolNet's data platform soon evolved to include formative assessments ("the quality of the data is only as good as the information you're gathering," Harber explains), professional development information, and frameworks for teacher observation and evaluation. In 2009 and 2010, states competing for Race to the Top grants began looking for "instructional improvement systems" that would earn them points against the grant program's criteria for providing teachers, principals, and administrators "with the information and resources they need to inform and improve their instructional practices, decision-making, and overall effectiveness." (Interestingly, two states that *didn't* win Race to the Top grants signed on with SchoolNet first: Idaho and Kentucky.) By 2011, School-Net was earning an estimated $75 million in annual revenue, and its products contained data on 5 million of the nation's 50 million public-school students.

"Jonathan was very good at developing creative means to reach the market, including finding ways to work with both school districts and educational foundations supportive of SchoolNet's mission and products," says Brian Hayhurst of the Carlyle Group, which led a $13 million Series D round of funding in 2009.

The growing appetite among school districts and states for data systems like SchoolNet's caught the attention of education publishers. In April 2011, just a few months after News Corporation bought Wireless Generation, Pearson scooped up SchoolNet's software, contracts, and team for about $230 million. Harber has become Pearson's head of K–12 technology, where he says he is creating a "unified technology stack" out of Pearson's inventions and acquisitions, which also include student information system PowerSchool; together, SchoolNet and PowerSchool now reach more than 20 million students.

Like Amplify, Pearson has run into challenges in extending its newer technologies into schools. A sizable contract to provide Pearson-powered iPads to the Los Angeles Unified School District came under fire by teachers and school board members concerned that the curriculum was released into schools before it had been fully developed. Harber is undeterred and believes that the data platform he began creating at SchoolNet will help Pearson "lay the tracks" for the future of learning. "When all kids have computers, and learning moves from all print-based or all teacher-delivered to being more digital and blended, data will be a key component to learning at scale," he says.

### The School Guy:
### Ron Packard

For-profit schools are the red-headed stepchildren of the education entrepreneurship movement, more objectionable to many than other for-profit ventures in education. It's one thing if a profit-seeking entrepreneur wants to offer food, computers, transportation, or gym equipment, but woe to the entrepreneur who considers operating schools at a profit.

"Private involvement in public schools pushes people's buttons. For whatever reason, it's a sensitive topic and arouses strong feelings," says Steven Wilson, CEO of non-profit charter management organization Ascend Learning and former CEO of for-profit education management company Advantage Schools.

It irks some stakeholder groups that the people starting for-profit schools are rarely career educators and come into education from fields like media and banking.

For example, a *Vanity Fair* profile of Edison Schools founder Chris Whittle wondered, "Is Chris Whittle the Devil?" after he used the proceeds from a series of successful media businesses to create Channel One Communications, which placed free televisions in America's classrooms that carried not only educational news programming but also advertising. So the ground was laid for mistrust when Whittle forged into for-profit schooling. First imagined as a conglomerate of 1,000 private schools known as the Edison

Project, Whittle changed the name to Edison Schools and the business model to managing existing schools under contracts with school districts and operating charter schools. Despite fierce opposition by teachers unions in many communities, the company grew quickly, raised more than $200 million in private equity, and went public in 1999. But after a series of setbacks, Whittle and outside investors bought back the company in 2003 for $1.76 a share. Now called EdisonLearning, the company offers tutoring and assessments in addition to managing schools, although Whittle himself departed in 2007 to start Avenues: the World School, a private international school.

Just as Edison's star began to fall, in 2000, former investment banker Ron Packard founded virtual school operator K12. Packard left banking and consulting in 1997 to join junk-bond king Michael Milken's education conglomerate Knowledge Universe, attracted by the fact that "education was at a point where technology and private companies would be able to have a positive impact on affordability and effectiveness." With a strong focus on revenue growth in emerging education markets, he led investments in for-profit education managers like Charter Schools USA and LearnNow (later sold to Edison) and ran the firm's daycare, preschool, and afterschool businesses.

During that time, he was in search of a complete online math course to supplement his daughter's learning and was disappointed by the lack of offerings. "I started to think we should build them, and in fact build an entire school online," he says. Knowledge Universe kicked in $10 million, former secretary of education Bill Bennett agreed to be chairman, and Packard became CEO. "I've always believed the most important thing is delivering something that customers want, and there were always people out there who wanted a more individualized approach," Packard says. "We had a version that was as good or better and could offer it at a lower per-pupil funding level." K12 raised $90 million in private funding between 2000 and 2007 from Knowledge Universe and individuals, including Andrew Tisch of Loews Corporation and Larry Ellison of Oracle. The funding enabled the company to invest heavily in what many view as a strong curriculum, led by former Core Knowledge curriculum developer John Holdren, but also to spend millions on lobbying efforts to put in place policies and to secure the necessary approvals to educate students virtually.

Growth has been a necessity for K12. Although the costs of operating an online education business are somewhat lower than what Edison faced, K12 must spread the benefits of its design and implementation costs over more schools and students in order to recover its substantial upfront development costs. "Implementing this vision is expensive—or will be until the productivity gains of a fully integrated online education system are realized," Packard emphasizes in his book *Education Transformation*. "When a course can be used by fifty to one hundred million students, however, it becomes affordable. That's why scale is so necessary." Unlike Edison, K12 turned a profit before it went public, with revenues skyrocketing from $141 million in 2007 to $848 million last year, drawn mostly from its management contracts with states and districts to operate virtual and blended-learning schools, but



*Ron Packard sits down with Newark Prep Charter School students who take blended learning courses through K12.*

also from operation of three private online schools paid for by parents and from direct sales of its courses to schools and districts. Packard himself has also earned a healthy chunk of change, with annual compensation of $670,000 and millions more in stock options.

Does the company deliver for students? It's hard to say for sure. For years, K12 has reported student progress using the results of a Scantron assessment students take at home with no supervision, saying it wants to use a more reliable measure than state tests. "The 33 states in

the expectation that the stock price will go down) in his portfolio, despite its strong performance to date.

"After the IPO, I got discouraged because the company's priority seemed to shift from academics to growth—it wasn't so much about academic achievement but on delivering the promised enrollment numbers to shareholders," former principal of Ohio Virtual Academy (operated by K12) Jeff Shaw told Tilson.

Packard says K12 has no interest in recruiting students who don't stay, nor can he turn away those who might not

## Technologies with the greatest wide-scale success tend to sell to individuals rather than businesses (or, heaven forbid, public agencies).

which we manage public schools each measure academic performance using different methods," noted K12's 2013 annual report. "Academic success defined by using grade-level, static proficiency tests is even more problematic given high enrollment growth rates, high student mobility and a high percentage of students who enter behind grade level." But K12 students' academic performance on state assessments has begun to raise concern. Shortly after K12 went public, Packard acknowledges, the company's student demographics began to shift from average students in search of a different school experience (such as home schoolers, rural students, or frequent travelers like athletes and actors) to include more struggling students performing below grade level, for whom online education is a last resort.

"They're serving students that the product was not originally built to serve," says Michael Horn of the Clayton Christensen Institute for Disruptive Innovation. "I think K12, in its effort to grow, has fallen into that stereotypical trap of trying to be a one-size-fits-all intervention."

Packard maintains that K12 made significant adjustments to the instructional model to address a wider diversity of students and that value-added scores have risen in some schools. Some are still skeptical, including a group of investors that filed a class action lawsuit in 2012 alleging that K12 had misled them about student retention. (The lawsuit was settled for $6.75 million in early 2013.)

"K12's aggressive student recruitment has led to dismal academic results by students and sky-high dropout rates," activist investor Whitney Tilson noted in a presentation to other investors earlier this year, explaining why the stock is the largest "short" position (an option held with

be a fit, since public charter schools are not legally permitted to be selective. He also appears unconcerned about the mounting criticism. "I'm not sure a lot of people could take the levels of attacks that some of us have gone through, but it energizes me, it means we're successful," says Packard. "It's our moral obligation to make sure that anyone who wants [online education] can access it."

Making good on that obligation going forward will fall to board chair Nate Davis. In January 2014, Packard turned over the CEO reins to Davis so Packard could run a new e-learning company that K12 is launching with a syndicate of global investors led by Safanad Limited.

### The Takeaway
Despite sizable stumbling blocks and the increased public scrutiny that have come with scale and success, each of these entrepreneurs and their companies have had an undeniable impact on the daily operations of millions of schools across the country. They have not only dreamed big, but patiently built their teams and businesses over a long period of time, adjusted course regularly, skated toward favorable policies (and the resulting available capital), and experimented with alternatives to the traditional district sales process that has frustrated so many others. Along the way, they've taken the heat that comes with pioneering new ways of working and educating (much as Microsoft and Facebook have done over the years). A few lessons can be gleaned from their experiences.

✔ First, start with (at least) one geek. Both SchoolNet and Wireless Generation were started by technologists intrigued

with the needs of education. Wireless Generation's Berger and Gunn compared their early ideas for what handheld computers could do in education to the *Star Trek* tricorder that could scan geological, meteorological, and biological data. K12's Ron Packard spent some time in college writing an image-processing language but also loves financial modeling.

"Successful entrepreneurs have a fascination for a particular kind of intellectual problem and a relentless, unstoppable, endlessly inventive, and improvisational effort to

Generation or a cash-rich parent company like Knowledge Universe, which backed K12.

✔ Pull an end run around schools themselves. Technologies with the greatest wide-scale success tend to sell to individuals rather than businesses (or, heaven forbid, public agencies). While many of K12's revenues come from states and districts today, the company's scale came through addressing the demand among home schoolers for a strong curriculum. Even Wireless Generation and SchoolNet credit some of their success to pursuing bigger fish than schools

# Every successful education company has managed to tap a significant new revenue stream made possible by public policy.

solve that problem," argues Matt Greenfield of Rethink Education, who backed Wireless Generation as an angel investor. "They do not start with a vague desire to be an entrepreneur and a quest to figure out something someone will pay for."

✔ Build a utility team. These successful entrepreneurs surrounded themselves with teams that straddle a range of disciplines, from curriculum and assessment, to policy and evaluation, to product development and sales. SchoolNet's Harber brought in Denis Doyle and his policy and business connections, much as K12 earned instant connections and credibility with Bill Bennett as its first chairman, along with curriculum developer Holdren's education experience at the Core Knowledge Foundation.

"A key determinant of success is the ability to hire, retain, and excite great people," says Greenfield. Education banker Moe says the prospects for such "hybrid" teams are only improving as the entrepreneurial education ecosystem matures, with new start-ups able to hire managers who have ascended the ranks of Teach For America or KIPP, received leadership and management grooming from the Broad Center or Education Pioneers, or run even larger operations at Blackboard or Kaplan.

✔ Get rich slowly. The entrepreneurs profiled above spent at least seven years with the original business rather than jumping ship. That shows commitment. "There are lots of easier ways to make money," acknowledges Packard. "You have to love what you're doing, because education is not the fastest-moving or simplest market," agrees Berger.

It's critical to raise money from people who are also willing to get rich slowly, whether that's a bunch of deep-pocketed individuals like those that Larry Berger attracted to Wireless

and districts, whether that's the state-level contracts that SchoolNet secured via Race to the Top or the development contract that the Bill & Melinda Gates Foundation awarded Wireless Generation (now Amplify) for work on its inBloom student-data framework.

✔ Push (and pay) for policy change. Every successful education company has managed to tap a significant new revenue stream made possible by public policy. In the case of K12, which relied more than others on state-level policies, that translated into significant spending on lobbying and government relations, although Wireless Generation and SchoolNet executives also spent time testifying in front of Congress in support of various policies.

✔ Finally, fly low—or be ready for bullets. There are a variety of successful entrepreneurial personalities out there. Several observers characterize Berger and Harber as easygoing and cooperative, which has suited them in their behind-the-scenes work building data platforms that did not thrust them into the public eye. Eventually, though, both systems reached significant enough scale to raise the hackles of privacy advocates (as with the inBloom project that Amplify is working on) and other local activists (like those who questioned whether cities should spend millions on SchoolNet systems amid budget struggles). Meanwhile, some describe Packard as more confrontational, perhaps a crucial attribute for a for-profit school operator. "K12 has been willing to take a lot of bullets on choice and virtual and digital…but that also allowed them to grow fast," says Horn.

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