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Online instruction, says best-selling education author, will change schooling as we know it--if we're lucky

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Primary Topic Channel: [AASA](#)

If Harvard Business School's Clayton Christensen is right, half of all instruction will take place online within the next 10 years--and schools had better get into the online-learning market or risk losing their students to other providers.

Christensen was at the American Association of School Administrators conference in San Francisco Feb. 19 to discuss his book *Disrupting Class*, which looks at why schools have struggled to improve through the lens of "disruptive innovation."

Disruptive innovation is the business idea that, every so often, a new innovation comes along that completely changes the marketplace, knocking the old market leaders from their perch and giving rise to new ones.

Disruptive innovations transform products or services into something so simple that anyone can use them, creating what Christensen called "asymmetric competition."

Because they take advantage of these radical innovations, new entrants to the marketplace are essentially competing against "non-consumption"--that is, they're getting customers who didn't exist in that market before--while the innovation continues to improve.

Once the new innovation has matured, these companies are in a great position to compete with the established market leaders, Christensen said--and therefore they nearly always win.

To illustrate this idea, Christensen brought up the example of the personal computer in the 1980s. At the time, mainframe computer manufacturers such as IBM, Wang, and Digital Equipment Corp.--which made a smaller mainframe called the "mini-computer"--were the clear market leaders.

When Digital was thriving, people attributed its success to sound management practices--and when the company suddenly collapsed in the 1990s and was bought by Compaq Computer Corp., one of the new market leaders along with Dell, some of these same people attributed its collapse to poor management, Christensen said.

"How can smart people suddenly get so stupid?" he asked. His answer: It wasn't management's fault; it was disruptive innovation. "It's actually the principles of good business management that assure each company's ultimate demise," he said.

The early PCs weren't very good, Christensen explained, which is typical of the first wave of products to take advantage of any innovation. And as all good companies do, Digital listened to its customers, who were saying this very thing. As a result, Digital decided it wasn't worth changing its business model.

In effect, the company's managers had to choose between making good products with a high profit margin, using a well-established business model; or scrapping that model--an extremely risky move--and making flawed products with a much smaller profit margin. Of course, sound business management practices said they should choose the first option...and the rest, as they say, is history.

A few companies have broken this model and continued to thrive after a disruptive innovation has occurred, but they've done so only by setting up a completely independent business unit, Christensen said--in effect, giving it a charter to compete against (and kill off) the parent company.

As the only mainframe company to survive into the PC era, IBM made the transition by creating a separate business unit for making and selling PCs, he explained.

Taking this idea one step further, Christensen noted: "A corporation can evolve, but the individual business units within it cannot." That raises an important question for those who seek to reform education: According to this theory, a school system, too, can evolve--but can the individual schools within it?

Expensive failure always results when disruptive innovation is framed in technical rather than business-model terms, Christensen said.

For example, take the transistor, which ultimately replaced the vacuum tube in radios and TV sets.

In trying to make early transistors good enough to work with these older models, Christensen said, the market leaders in vacuum-tube radios (such as RCA) spent the modern equivalent of billions of dollars in research and development. In the meantime, Sony came along and transformed the marketplace with its invention of the pocket radio.

Instead of spending so much money trying to make the new technology work within their existing business model, RCA and others would have been better off spending that money to reinvent their business.

Christensen drew a parallel with today's schools: Public schools have spent an estimated \$60 billion putting technology into classrooms, he said--but they've largely been doing the same thing RCA was doing: applying a new technology on top of an old business model. And that's a key reason today's schools have struggled to improve.

Whenever a disruptive innovation occurs, the substitution pattern in which the new model replaces the old one follows an S-curve pattern that can be calculated mathematically, Christensen said. At first, as the suppliers of a new innovation work out its flaws, adoption is fairly flat. But then, as the innovation improves to the point where it's widely affordable, accessible, and delivers a satisfactory experience, adoption spikes exponentially.

This mathematical model has proven to be remarkably consistent throughout history, Christensen said. And if that historical pattern holds true, then the latest disruptive innovation that is sure to affect education--online learning--is set to take off dramatically.

Online enrollments have grown from an estimated 45,000 in 2000 to more than a million last year. By 2013, he said, 10 percent of all "seat time" will be occupied by online instruction--and within 10 years, he predicted, more than half of all seat time will be online enrollments.

"This is a very dramatic change that will happen in 10 years," he said.

Until now, the providers of online instruction have catered primarily to areas of "non-consumption" in education, Christensen said, such as credit recovery, AP courses, and home-schooled or homebound students.

But that will change once online instruction reaches its tipping point--and if schools want to compete for these "customers" (their students), they should consider partnering with an online-learning provider or starting an online program of their own.

Another reason schools have struggled is the conflict between how they've traditionally had to teach and how students learn most effectively, Christensen said.

Until now, it has been very expensive to teach to students' individual needs, he said--and yet, research shows that's how students learn best.

One reason online learning is attractive is because it allows for more of this customized approach to instruction than can be found in many classrooms. But now, software that enables every child to learn at his or her own pace is becoming a scalable, modular way to deliver customized learning, Christensen said--and it's another economically important solution for schools.

He concluded with a warning to the senior school district executives who'd come to hear him speak: "Changing education isn't changing education."

"My fear is that all this federal funding [from the stimulus package] will give us the complacency to continue as we've been doing things," he said. "I hope we have the discipline to use this money to really address the reasons why kids aren't learning."

*(**Editor's note:** For more coverage of this year's AASA conference in San Francisco Feb. 19-21, visit the AASA Conference Information Center page at eSN Online:*

<http://www.eschoolnews.com/conference-info/aasa.>)