**book review**

**Something’s Better Than Nothing**

*Why technology in education doesn’t need to be very good*

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Disrupting Class: Why Disruptive Innovation Will Change the Way the World Learns

By Clayton M. Christensen, with Michael B. Horn and Curtis W. Johnson


As reviewed by Nathan Glazer

Clayton Christensen is a professor at the Harvard Business School and the author of a widely used book on innovations in business titled *The Innovator’s Dilemma*. Published originally in 1997, with the subtitle “when new technologies cause great firms to fail,” *The Innovator’s Dilemma* went into a second edition in 2000 with a new tag line, “the revolutionary bestseller that changed the way we do business.” I note further editions published in 2003 and 2006. Clearly there is something here that has been of interest in the world of business schools and business management.

Christensen is an expert on Silicon Valley, its changing products and fortunes, but in his new book, written with two colleagues, he draws on the history of many other fields of business enterprise, from making automobiles and radios to launching new kinds of investment opportunities. His central idea is there is a kind of “disruptive innovation” that causes great companies to fail and new start-ups to replace them. Here he applies the theory of disruptive innovation to the field of education. What can we learn from this transfer of tools of analysis, apparently helpful in business, to education?

Christensen sets the stage by asking why it is so hard to improve schools, running through some common explanations: We don’t spend enough money on them, we don’t use enough computers, students have become lazy and media- and game-addicted, schools are just too traditional. And then there are the teachers unions. While he accepts that all may play a role in school failure, he sees another as the central problem: education and schooling are not childcentric and in particular do not respond to the reality that children are different and learn differently. He is a strong advocate of the work of Howard Gardner on “multiple intelligences,” supporting Gardner’s theory that there are many kinds of intelligence, and many ways of learning, and that different children bring different kinds of intelligence to the learning endeavor. Thus, according to Christensen, the traditional classroom, with children of a given age being taught by a single teacher using a common pedagogy, will not do. Effective reform requires “customization” of the process of teaching, to adapt to the varying styles of different children. And the way to attain this new model of education is through the computer, with its ability to present a nearly infinite variety of ways of teaching in almost any field. But standing in the way of such a transformation is the fixed structure of the school, the age-determined set of classes, slotted into a curriculum where one learns certain things at a certain age and must move on to the topics determined as suitable for the next year.

“Disruption” of this pattern is required, and Christensen leads us through his theory of “disruptive innovation,” which he contrasts with “sustaining innovation.” “Sustaining innovation” is one improvement after another in a given product—the automobile, the telephone, the business computer—which the product innovation departments of established companies introduce. But there is another kind of innovation, which the established companies do not recognize, or do not consider profitable, or cannot fit easily into their established patterns. Christensen offers many examples from business history: the large business computer was displaced by the personal computer, the fixed radio set by the small transistor-driven portable. Leading corporations were blind-sided by these disruptive innovations. This is what education needs if we are to see improvement (see “How Do We Transform Our Schools?” features, Summer 2008).

Are charter schools this kind of disruptive innovation? Teachers unions and public school systems think so, but they will not quite do for Christensen, though he recognizes some as being truly innovative. Does the huge expansion in the number of computers in schools serve as an appropriate disruptive innovation? It could, but it doesn’t, because they are used primarily to supplement old practices rather than establish the new ones that are truly disruptive and innovative. The truly disruptive innovation, according to Christensen, is one that is directed to the nonconsumer of the established product. This seems to be a key feature of his theory: The small personal computer did not supplement the large business computer of the early days of the computer revolution, but instead served those who didn’t have any computers at all; the transistor-driven small radio was embraced by those who had no other access to radios.

But how do we apply this story, based on histories of business successes and failures, to schools? By way of Gardner’s theory of multiple intelligences and the computer’s capacity to provide different ways of teaching and learning. Christensen heads each chapter with a vignette featuring students, teachers,
and administrators in an imaginary high school. In one of these vignettes Maria, an able student interested in learning Arabic, which is not offered in the school, is directed to a computer program and shown happily learning the new language. This is an example of the “nonconsumer”—this student was not already taking Arabic, though she may have been studying another language. Rob is an able athlete—an example of Gardner’s “bodily-kinesthetic intelligence”—who is having difficulty with chemistry. He also gets connected to a computer program, which teams him up with a Japanese student who is eager to learn English and will in exchange help him with his chemistry. One is less optimistic that this approach to improving chemistry for Rob will work as well as the Arabic program for Maria. One wonders, too, whether there is any kind of specialized computer program imaginable that will make use of bodily-kinesthetic intelligence to improve knowledge of chemistry.

Christensen is aware of the strong class differences among children as reflected in school achievement, but he is convinced by research that shows that a great part of intellectual ability is determined by the experience of the first 36 months of life, particularly the amount and kind of language directed to children. Nothing much can be done about that when the children reach school, even in pre-kindergarten, so he puts his money on multiple intelligences and the computer.

Christensen acknowledges the many problems that are involved in what he hopes will be a revolutionary change in how education works, when many kinds of imaginative computer programs addressed to all kinds of students are in use. The lockstep system of education is bolstered by many institutions, such as the production and adoption of widely used uniform textbooks, and Christensen hopes that they will be undermined by the rapid advance of computerized teaching programs, adapted to different children. He sees opportunities for this kind of disruptive innovation in the small rural schools that cannot offer many subjects, in urban secondary schools in low-income areas with similarly restricted course offerings, and for homebound and home-schooled students. He sees the beginnings of a market response in companies such as Apex Learning, established by Microsoft cofounder Paul Allen. Enrollment in online-delivered courses rose from 45,000 in 2000 to 1 million in 2007. From a perspective based on the experience of innovative growth in other areas, Christensen writes that “the data suggest that by 2019 about 50 percent of high school courses will be delivered online.” This is an astonishing projection, and one doesn’t know what to make of it. Is it really possible? Christensen shows a surprising self-confidence on other matters as well. Critical of contemporary education research, he touts an approach which seems not particularly different, but from which he expects great results. “Other fields,” he writes, “have bodies of research that allow people to predict with great certainty the results of actions.” “Great certainty?” I wonder.

_Disrupting Class_ breathes a degree of confidence that is on the whole foreign to the world of education, one that may be characteristic of the world of the business school. In business case studies, one learns just why businesses succeed or fail, and the course of action that would have avoided failure. In the world of real business, things are of course not so simple. Undoubtedly more, and one hopes better, use of computers will be made. Perhaps they can be adapted to different styles of learning. Christensen envisages this as emerging from “user networks” developing “user-generated content.” That certainly seems more feasible, if it can be done, than the enormous up-front expense incurred in developing a large array of courses adapted to different kinds of students. But one cannot resist a degree of skepticism. What we have learned to value in schooling is verbal and mathematical skills, and perhaps we have been excessive in the degree to which we value the kinds of intelligence that lead to high achievement in these competencies. But such achievement cannot be attained by every style of intelligence, using distinctive means adapted to it. So I remain skeptical of the prospects for “disruptive innovation” in our education system if its success will rely on heightening the role of other kinds of intelligence.

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