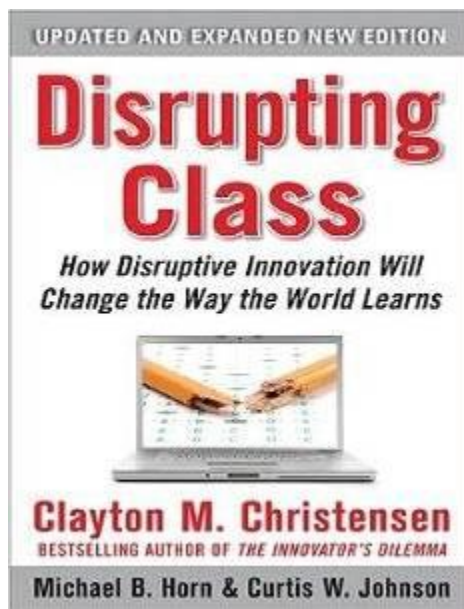# Book Review

Using Student-Centric Technology for Educational Change

"Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns" by Clayton M. Christensen, Curtis W. Johnson, and Michael B. Horn

By Nicole J. Martone

In this expanded edition, authors Clayton M. Christensen, Curtis W. Johnson, and Michael B. Horn present a compelling argument in *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* to disrupt the current educational system through the use of student-centric technology. The book's layout chronicles the lives of several individuals—a veteran teacher (Mr. Alvera), a newly appointed principal to a new building (Dr. Allston), and some very different students (Maria, Rob, Sam, and Doug)—discovering in their own way that the current mold of a one size fits all approach to education is not working.

Their stories are presented as brief anecdotes at the beginning of each chapter, where a new dilemma is brought to light or resolved, and serve as segues into each chapter's topic. For educators and students today, these individuals' lives are very real in that the everyday trials and tribulations they face are nothing new to the challenges seen in the field.

The authors assert that this model of standardization failing these individuals—"categorizing students by age into grades and then teaching batches of them with batches of material"—was influenced by the early industrial factory system. By introducing grades and having a teacher focus on only one set of students of the same academic proficiency, "teachers could teach 'the same subjects, in the same way, and at the same pace' to all children in the classroom" (p. 35). Due to the homogeneous model, educators struggle with engaging all of their learners and are discovering the importance of technology's role in tapping into students' interests. It is no doubt that many students do not have their interests met and developed in their current academic spheres.

The authors begin by looking at different philosophies of education throughout history, starting with the old school-house model of heterogeneous groupings; to the model throughout the Industrial Revolution and Progressive Era, with the introduction of vocational training; to the turn of the century,

with the direct-instruction approach (which, they point out, is still used by many today). The authors clearly indicate that one major thing is missing from all current and previous educational philosophies—individualized instruction, where every student learns at his or her instructional level, at his or her own pace, and even with material that he or she is interested in. This notion of individualized and differentiated instruction is not new to educators, yet the authors propose that the current educational challenges with meeting differentiation's demands can be better sought through online, student-centric learning experiences.

The authors subsequently compare education's infrastructure to a business model, explaining why schools are failing as a nation, especially with meeting the demands of No Child Left Behind and standardization. They emphasize their arguments with examples of how businesses failed to adopt new approaches and focused on building their current clientele, creating products to support existing markets. This, they claim, made economic sense at the time, even if the current market called for something different or more innovative. Christensen, Johnson, and Horn discuss that "cramming what should be a disruptive innovation into an existing marketplace is fraught with expense and disappointment because new disruptive technologies never perform as well as does the established approach in its own market" (p. 79). But, unfortunately, when a new, more in demand, and cheaper product came along, those businesses failed to compete and thus collapsed.

The authors emphasize that this is the current situation in education. To them, it essentially boils down to supply and demand, and the current supply is not meeting the demand or need. This is presented through the authors' "jobs-to-be-done model," which is new

to this edition (p 175). Students, the authors suggest, need to have a reason *to hire* school. What is demanded of education is the need for more personalized, relevant instruction that cannot be met the way that schools are traditionally designed and organized. The authors thus state an obvious dilemma: "[B]ecause students have different types of intelligence, learning styles, paces, and starting points, all students have special learning needs. It is not just students whom we label as having disabilities" (p. 34). What they propose is to customize and tailor learning experiences for each student through online, student-centric course offerings to motivate all students to learn.

With their arguments, the authors have hit on something significant: We live in a very technology driven society and the educational realm is not immune to its existence. The authors address a way to better support students academically because we are, essentially, a nation at risk and something must be done. They have tapped into something—namely, the need to integrate technology in a more meaningful, purposeful way— that has received some attention and should be looked at more closely. Their course of action would change the framework of schools, which can make many stakeholders uncomfortable. However, education does need to evolve with the times, and meeting the students' needs in a more innovative, targeted way should be a priority.

Nevertheless, the authors fail to address some significant holes, particularly in regard to the practicality of implementing their theoretical vision. They mention that by 2019, 50 percent of students will be taking online courses. Further, by 2024, 80 percent of students will be taking online courses. These predictions seem too lofty. The authors also do not address the legislative realities involved when making significant educational changes, especially when the allocation of funds, or the change thereof, is

involved. The authors state that online coursework is more affordable, but they do not break down the exact costs. They assert that "costs will fall as the market scales up," emphasizing that online, student-centric course demands will increase and supplement classes where there are teacher shortages (p. 101). Such a situation, they claim, would allow teachers to give students more individual attention (p. 73). The new educational environment that the authors envision thus presents new roles for teachers. While seemingly fine for courses in subjects lacking qualified teachers, what will eventually happen to courses where live teachers are available? They also mention that students can take courses at their own pace, at individualized levels of instruction, and the courses which interest them. This raises various questions: How can courses be tailored for all students in this way? Do we not still have to ensure that all students meet the same graduation requirements? Is this going to work logistically?

Further, online courses like the ones the authors mention can have complications. As the authors assert, "online learning works best with the more motivated students" (p. 100). Even with customized programs, problems can exist with students' attentiveness and ability to finish courses (p. 100). Many students and parents may end up requesting live, face-to-face teachers because students can have trouble keeping up with the work and understanding it.

Overall, this text informs policymakers, education reformers, administrators, and teachers looking to support their K-12 students' varying academic needs when preparing them for career and college readiness. It also potentially informs post-secondary institutions looking for ways to address issues with remediation that seem to plague many of our country's schools. Many post-secondary schools offer courses online or in hybrid format, so it is

no surprise that more K-12 schools may begin to offer online courses or blended online experiences in the years to come.

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About the Authors
Clayton M. Christensen is the Robert and Jane Cizik Professor of Business Administration at the Harvard Business School, and is widely regarded as one of the world's foremost experts on innovation and growth. He is author or coauthor of five books including the *New York Times* bestsellers, *The Innovator's Dilemma* and *The Innovator's Solution*.

Michael Horn is the co-founder and executive director of the Education of Innosight Institute, a non-profit think tank devoted to applying the theories of disruptive innovation to problems in the social sector. *Tech & Learning* magazine named him to its list of the 100 most important people in the creation and advancement of the use of technology in education. He holds an AB from Yale and an MBA from Harvard.

Curtis Johnson, once a teacher and later a college president, is a writer and consultant. He was head of the public policy research organization that launched the idea of chartered schools and chief of staff to former governor Arne Carlson of Minnesota. Co-author of three books on how metropolitan regions have to adapt to new realities to be successful places, Johnson is a partner with the Citistates Group and the managing partner of Education Evolving, a project of the Center for Policy Studies. He is a graduate of Baylor University with a PhD from the College of Education at the University of Texas.

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