

Disrupting disruption: how the language of disruptive innovation theory and the “tools of cooperation and change” can change the way educators respond to the neoliberal marketization of education.

Richard C. Fouchaux
MEd Candidate, York University

This paper notes how the theory of *disruptive innovation*, which arose at Harvard Business School in the late 1990s, and the *Tools of Cooperation and Change*, a supporting theory that arrived in 2006, together represent the epitome of neoliberal dispossession-based marketization paradigms. The language they bring to debates on policy reform is concise and revealing, the tools practical and effective. Yet in the dozen or so years since their arrival they too have become, to use their own vocabulary, an *entrenched interest* that serves to perpetuate the status quo of male-dominated capitalism. Education policy makers who understand that “public education is central to the construction of a cosmopolitan moral democracy” (Reid, 2007:292) can at the very least benefit from understanding the language and recognizing the tools. Perhaps they can even turn them to a socially responsible purpose, employing them to help “move the public/private debate past its current impasse” (*ibid*, 293).

Introduction:

In early 2009, shortly after the U.S. elections, I was given the loan of a book to read, ostensibly a book on education. Indeed, I soon discovered the book was already known to several of my coworkers and professors, and it seemed in general to have made a strong impression on many people involved in education—leaders, elected officials, administrators, philanthropies, foundations, entrepreneurs, faculties of education, graduate schools, teachers, parents, students. (iJumpTV, 2009)

Disrupting Class: how disruptive innovation will change the way the world learns by Clayton M. Christensen, Michael B. Horn and Curtis W. Johnson (2008, McGraw-Hill) arrived in book stores some months before public recognition of the Global Financial Crisis. The book propounds a business paradigm, claiming to provide both a definitive contemporary analysis of the state of education and the “tools” to fix it. Christensen et al's concern is not limited to education — they have also released a *Solution for Health Care*¹. Harvard Business School (HBS) has published Christensen's works on disruption and innovation since at least 1997's *Innovators Dilemma*. I think it's accurate to say it is a

¹ The Innovator's Prescription : A Disruptive Solution for Health Care by Clayton M. Christensen, Jerome H. Grossman, and M.D. Jason Hwang

generally well received body of work that in this 2008 incarnation has kick-started a renewed enthusiasm for neoliberal and reformist education reform, even within sectors some thought were slumbering (Bentley, 2008; Horn, 2009; iJumpTV, 2009).

I present this book as representing the epitome of neoliberal education reform theory that encourages, from a purely business/market perspective, the (neoliberal) “restructuring of education to conform to [the] utopian market ideal...” of “individualism, consumerism, competition, and minimal governmental interference...” and (reformist) “[accepts] capitalism as a normative part of the human condition...” (Raduntz, 2007:234). I will ask and attempt to answer, “What are *creative disruption* and *disruptive innovation*, their vocabulary, and how do they present as a positive force?” “What do the authors see as education’s goals?” “What assumptions do the authors make about education?” “What are “Tools of Cooperation and Change”?” “Which disruptive forces and resulting innovations are seen and predicted within education?” and “What can, or *should*, educators do with this information?” I will examine the authors' notion of education as a *value-chain* business model and I will endeavour to juxtapose that notion with views of education's value to and within democracy and citizenship education, both as argued elsewhere in Christensen et al and in the current education policy literature more generally.

I will present the reader with vocabulary and concepts from the disruptive innovation discourse that I believe have strong implications for education reform, and I will contrast them with common views held by contemporary innovators from within the field of education. I will show why I think this common language, steeped as it is in both the insight and experience of the traditional business establishment and the fresh vocabulary of the Disruptive Innovation franchise, is the authors' most important contribution. We will explore the authors’ proposals for “fixing” education and take look at their set of “power tools” by which such fixes are accomplished. I shall employ the authors' language

within the context of democracy education and at times I will attempt to turn the authors' language on disruptive innovation itself.

Ultimately I will argue that the business lens offered by Christensen et al represents far too narrow a field of vision, and that to the extent education can be described and approached as a single market-like entity, continued regulation of that market-like entity — by a diverse and multi-lensed representation of stakeholders — is critical to preserving and sustaining education's fundamental support role in a democratic society. Empowering and enabling dedicated educators by providing ever evolving tools with which to ply their trade is both worthwhile and laudable, but venture capitalists and would-be privateers must be kept at arm's length. Far too many of the key players in the Global Economic Meltdown are alumni of HBS and similar institutions²; no approximation of the business model where profit motive leads to structures that are “too big to fail” must ever be allowed to dominate in education.

“What are creative disruption and disruptive innovation, their vocabulary, and how do they present as a positive force?” *Large streams from little fountains flow, Tall oaks from little acorns grow.*³

Disruptive innovation is defined as “the process by which an innovation transforms a market whose services or products are complicated and expensive into one where simplicity, convenience, accessibility, and affordability characterize the industry” (p. 11).

Motivation is the catalyzing force for every successful innovation; it can be *extrinsic* or *intrinsic*. *Prosperity* and *success* inevitably curtail *extrinsic* motivation but encourage the *intrinsic* variety. They also produce *resistance* to further change and innovation as the status quo *entrenches* itself. It doesn't matter what we think or try to do: disruption happens. *Innovation* arises naturally in *areas of nonconsumption*. Disruption is seen by those who profit from the innovation as a *creative* and positive force.

² E.g., George W. Bush; Henry Paulson — Treasury Secretary and prior CEO of Goldman Sachs; Jamie Dimon — CEO JP Morgan Chase Citigroup Inc. He serves on the boards of a number of nonprofit institutions, including the Federal Reserve Bank of New York, Harvard Business School, and the United Negro College Fund; John Thain — CEO Merrill Lynch, previous executive of Goldman Sachs; Rick Wagoner — CEO of General motors since 2000 until he was fired by Barack Obama.
³ From an essay by D. Everett in *The Columbian Orator*, 1797

An illustrative example of an “area of nonconsumption” is the U.S. teen culture, c. 1954, and its relationship to the emergence of the transistor radio⁴. Prior to 1954 this socio-economic demographic was an area of nonconsumption of AM radio music and news, therefore a relatively insignificant hence largely untapped source of advertiser dollars. This was due in great part to the size and cost of the dominant form of consumer radio, which was based on vacuum tube technology, by then an industry established for at least 3 decades (Handy, Erbe, Blackham, Antonier, 1993).

When the makers of tube radios were approached to manufacture inexpensive light weight radios based on transistors they listened to the poor quality and relatively low fidelity and quickly dismissed the proposition — their customers would never accept such a poor product. Teenagers as a whole valued sound fidelity less, portability and affordability more. The TR-1 cost \$50 and sold 150,000 units; by the early 1960s, with the introduction of the Japanese imports they cost less than \$10 and sold millions. The infusion of capital resulted in a more refined product that eventually began to encroach on the market share of vacuum tubes. A new market was *created*, the old one *disrupted* (Christensen et al, 2008; Handy, Erbe, Blackham, Antonier, 1993).

Disrupted markets rarely disappear entirely, but they are reduced to *niche* markets. For example, the vacuum tube still enjoys an untouchable pedestal amongst audiophiles and musicians whose ears hear the difference. *Entrenched* markets do everything in their control to entrench further and absorb the disruption; they embark on such strategies as *cramming* the disruptive features into their own product. Sometimes they set up divisions or subsidiaries to deal with disruptions, and sometimes these actually replace the original business or organization.

What do the authors see as education’s goals?

⁴ In one of a few examples of sloppy research that made it into *Disrupting Class*, Christensen et al attribute this to Sony Corporation. In fact, Texas Instruments early prototype became the Regency TR-1, announced on October 18, 1954 by the Regency Division of I.D.E.A (Industrial Development Engineering Associates of Indianapolis, Indiana), patented by Richard C. Koch was the first practical transistor radio made in any significant numbers.

The authors' have summarized four aspirations they believe most of us share for education: that it will, maximize human potential, facilitate a vibrant participative democracy in which we have an informed electorate that is capable of not being “spun” by self-interested leaders, hone the skills capabilities and attitudes that will help our economy remain prosperous and economically competitive, and nurture the understanding that people can see things differently — and understanding that those differences merit respect rather than persecution. I largely agree with their assertion that “most of us wish schools were playing a much more effective role in our efforts to move society toward goals like these” (pg. 1), but I'd posit a rather significant difference in the quality of one of the items on the list in relation to the others. The third aspiration is the only one with a nationalist, individualist framing, rather than the more globalist or humanist scope of the others — “our” economy must remain “competitive.” Such ideas are identified by Apple (2005) and Raduntz (2005) as fundamental techniques by which democracy is transformed from a political discourse to one of economics, making it “ever harder to interrupt the growing inequalities in resources and power that so deeply characterize many societies” (Apple, 2005:217).

The care taken within the discussion referred to above is in stark contrast to the authors' quick summary of Thomas Jefferson's, Noah Webster's and Horace Mann's later influence on American education and the important role they envisioned for it in preserving democracy and defining the nation's moral character. They instead take care to note there is no mention of schools or public education in the Constitution, that Virginia tax payers did not want to foot the bill, and that from the cream of the crop as it were, and elite group of the wisest achievers would be selected by merit to become the nation's leaders (52-3). Norbert Sand (1943) says much more about Jefferson, and in fewer words: “Jefferson recognized the supreme importance, for a democratic government, of universal education. And this education must above all things teach men to think clearly and independently, for only by so doing will they be able to perpetuate a democracy.” Furthermore, even in the face of those

in “...favor of studies having more "current" or "practical" value” Jefferson passionately favoured a common curriculum with great emphasis on the Greek and Roman classics, because “...the classics were to serve a supremely useful end, the preservation of the democratic ideal” (Sand, 1943).

I by no means wish to bring into question the authors' fundamental sincerity, nor the genuineness of their concern for our youth, but I am deeply concerned with the combination of *laissez faire* market culture, most-toys-wins world view with the dehumanizing reduction of education to a value-chain. “...the capitalist form of market exchange... can not deal with quality education nor with social, ethical, or equity concerns” (Raduntz, 2005:242). Marketization incubates inequity and social dysfunction, as we witnessed during the sub-prime mortgage build-up to, and bailout from, the Global Economic Crisis of 2007-2009, and as we see in the U.S. Congress's ongoing self-induced paralysis over health care legislation. The unfettered nationalistic competition promoted by Christensen et al's Aspiration #3 is antipathetic to global citizenship, and as Apple (2007:211) has demonstrated extensively, “...even with the good intentions of the proponents of many of these kinds of proposals, in the long run they may actually exacerbate inequalities, especially around class and race.” Public oversight of education and education policy reform, and “[defence of] the public nature of public spaces such as public schools” (Apple, 2007:228) is critical to democratic globalisation and the globalisation of democracy. (Apple, 2007; Raduntz, 2007; Reid, 2007; Davies, Evans and Reid, 2005; Rodriguez-Romero, 2008)

What assumptions do the authors make about education?

The first assumption the authors' arguments rest on is that education can be described as a commercial flow and that describing it so will result in broadened abilities to positively influence educational outcomes and augmented value for education stakeholders. This line of thinking has been noted for years in the education literature, where it's referred to as *marketization* of (Apple, 2005; Raduntz, 2005). It would be hard to imagine a more authoritative voice on business than Harvard

Business School's, and in light of the pervasiveness of this theme it will prove prudent to follow it through.

There are 3 business models. For this explanation I will quote directly from *Disrupting Class*:

“Solution Shops employ experienced, intuitively trained experts whose job is to diagnose problems and recommend solutions. High-end consulting, law, and advertising firms, R&D organizations, and specialist physicians' diagnostic activities in hospitals all are examples of this type of business model: they diagnose problems and recommend solutions. [...] Manufacturing, retailing, and food service companies are examples of the second class of business models, which we call Value-Chain businesses. These companies bring inputs of materials into one end of their premises, transform them by adding value, and deliver higher-value products to their customers at the other end. In contrast to solution shops, much of the ability to deliver value in a value-chain business is embedded in strong, standardized processes [...] In the third type of business model, facilitated user networks, customers exchange with each other. Telecommunications is a facilitated user network: we send information to you, and you send it to us. So is insurance: we pay our premiums into the pool, and our claims are paid out of the pool. Banking also is a facilitated user-network business. Participation in the network typically isn't the primary profit engine for participants. Rather, the network is a supporting infrastructure that helps the buyers and sellers make money elsewhere. [...] Public education's present commercial system is largely a value-chain business. This has implications for what types of learning can and cannot be introduced into the present system. We summarize the companies and committees of public education's commercial system—all of the activities entailed in decisions about what to teach and how to teach it—in Figure 5.1.⁵” (126)

The authors' summary of “the companies and committees of public education's commercial system” seems to reduce education to a description of how textbooks are produced and sold within the school system:

First, subject-matter experts create textbooks and other instructional tools, which codify the concepts to be taught and the methods used for teaching them. Curriculum experts at the state and local levels then make decisions about which textbooks to adopt. Teachers then deliver the content to the students—typically en masse, though sometimes individually and the extent to which students learned what they were taught is assessed. Teacher training sits in the middle of this and reinforces how all these steps work. (128-132)

This conception of education as a flow of commercial product, a simple “value-chain” with raw materials entering and a shiny finished product emerging is probably too simplistic to be of any great use outside the motive for which it was contrived — the profit motive. The transfer of knowledge to students is also seen as a value-chain. This aspect of marketization reveals neoliberalism's view of

⁵ See Appendix A.

students as human capital: the business of schools is to impart “the requisite skills and dispositions to compete efficiently and effectively” in the marketplace/workforce (Apple, 2005:214).

The second main assumption is that the existing public education system provides no customization for the different ways people learn. Throughout *Disrupting Class* we are told schools and/or teaching are “monolithic” inflexible structures and systems. “Most teaching operates like a value-chain, too” (131). The relevance of individual assistance (Fig. 5.1 Step 4) is quickly dismissed because according to the authors it represents “a small amount of time” (132). We are told in the forward that HBS centers all its teaching around case studies, so perhaps Christensen et al believe such single-model approaches prevail at all levels in all regions of all nations.

Yet, as they themselves acknowledge elsewhere, there are better schools and worse schools, better teachers and worse teachers. Even the most cursory examination of the literature reveals that the perception of schools and schooling as purely monolithic systems is disingenuous at best. The saying “guide on the side, not sage on the stage,” is offered by Christensen et al to the business community (the genuine target audience of this work) as a profound new take on teaching; in fact it was a familiar old saying when I obtained my teacher training in 1993. The assembly line image described in Fig 5.1 and implicit throughout *Disrupting Class*’s main thesis simply does not adequately describe the real world of K-12 education today.

One of many alternative models that has been in wide practice for decades is Cooperative Learning. “Cooperative learning is an old idea in education. [...] Laboratory research on the effects of cooperation on performance and other variables was already under way in the 1920’s (see Maller, 1929)...” Slavin (1980:315). A partial time-line on the history of Cooperative Learning begins in the early 1900s with such educators and dedicated researchers into learning as John Dewey, Kurt Lewin, Jean Piaget, and Lev Vygotsky. It comes of age in the 1960s with Stuart Cook and B. F. Skinner, and evolves throughout the 1970s and 1980s with the work of David DeVries, Keith Edwards, and Elizabeth

Cohen. (Johnson, Johnson, & Holubec, 1998, p. 3:2-3:3). Nonetheless the terms “traditional” and “conventional” remain firmly attached to the teacher-directed model.

A dozen years prior to *Disrupting Class* Alfie Kohn (1996) analysed the outcomes of intrinsic vs. extrinsic motivation in the student-centred classroom. Far from sharing Christensen et al’s educational aspiration to produce citizens prepared to compete, Kohn promotes community and the democratic process, citing research showing children who are taught with traditional classroom methods tend to be more selfish and uncooperative than those who are taught with alternative methods (Kohn, 1996). Such qualities, especially individualistic greed, have been widely regarded as underlying the business model that induced the World Financial Crisis and hold so much in common with Christensen et al’s prescription for education today. Twenty-two years ahead of Christensen, Johnson and Horn, Kohn (1986) exposed 4 myths of competition, finding competition undermines individual growth and development, as well as human relationships, hindering goal attainment as it enables only one party to reach the goal at the expense of others (Kohn, 1986).

“What are “Tools of Cooperation and Change?”

Venture capitalists and entrepreneurs are not, in general, social activists. Two factors are of far greater concern to profiteers in any arena: regulation and resistance to change. In North American education regulation is represented mainly by state standards and teacher unions (142); resistance to change is fundamentally “entrenched” in the cultures of all established systems. Every organization at some point faces the need to implement change. Building on prior work (Christensen, Marx & Stevenson, 2006) the authors plot on an “Agreement Matrix” to illustrate where various organizations can fall along two dimensions: the extent to which people agree on what they want and the extent to which they agree on cause and effect, or how to get what they want⁶. “Different quadrants call for different tools. When employees share little consensus on either dimension, for instance, the only

⁶ See Appendix B.

methods that will elicit cooperation are "power tools" such as fiat, force, and threats." (2006:abstract). Hundreds of studies of cases falling on all points of the matrix have yielded a collection of such tools that can be used to successfully implement change. For example, sometimes people disagree because they're trying to explain things in ways the other side can't understand. In such a case agreeing upon a "common language" can help the parties to reach consensus. "Separation" is indicated if parties' disagreement is so fundamental they can't compromise and can't be coerced — dividing the conflicted parties into separate groups so they can be in strong agreement with those in their own group and remain isolated from other groups (190). Schools most often fall in the lower-left quadrant of the model, meaning stakeholders disagree strongly both about what they want and on what actions will produce which results. "People have tried democracy, folklore, charisma, salesmanship, measurement systems, training, negotiation, and financial incentives. All have failed. We see only three possibilities: common language, power, and separation." (DC: 192). The authors of *Disrupting Class* encourage union busting and legislating various degrees of privatization in order to accomplish reform.

Which disruptive forces and resulting innovations are seen and predicted within education?

Christensen *et al* argue the first stage of disruption to education's *status quo* arrived with the advent of computer-based learning. It takes root competing against non-consumption — e.g., remote geographical locations may indicate distance learning solutions, students in need of any form of remediation (special needs students at both ends of the spectrum) and students experiencing exclusion in any of its complex forms (see Osler & Vincent, 2003). Within a few years two new factors will emerge: platforms that facilitate the generation of user-generated content and social networks by which to share and distribute them. Using the example of the Linux operating system's modular kernel and open source development paradigm (32, 123, 136), and referring to an application model exemplified by Intuit's QuickBase software, the authors propose a fascinating electronic learning module development scenario that, assisted by electronic user networks, will circumvent and replace the textbook value-chain:

We suspect... that when disruptive innovators begin forming user networks through which professionals and amateurs—students, parents, and teachers—circumvent the existing value chain and instead market their products directly to each other as described above, the balance of power in education will shift. Administrators, unions, and school boards will capitulate to the *fait accompli* of larger and larger numbers of students acquiring and using superior, customized learning tools on their own. [...] This also points to a road forward for those venture capitalists, foundations, and philanthropies that hope to invest with impact in education. (142)

The authors say this second stage of disruption also evolves, much as the sound quality delivered by solid state technology eventually approached that of tubes — the clunky tutorial-like advance guard eventually gives way to more and more sophisticated learning software that is able to adapt and customize to the aptitudes and learning style of a variety of students. Easily acquired software plus accessible networks leads to the end of traditional schooling since “...historically, because they haven’t known of the existence of remedies for learning problems, students and their families typically put up with poor grades and the low self-esteem spawned by feeling dumb. These user networks will be designed to help students and their families diagnose why they’re finding it so difficult to master a subject and then find their own solution.”

Because “modular architectures optimize flexibility, which allows for easy customization” (31) the authors sought a modular learning model, and they conveniently had no need to leave the hallowed halls of Harvard to find one. Howard Gardner’s Multiple Intelligences theory (Gardner, 1983) began informing practice in the early and mid 80’s — and criticism of Gardner’s claims began to appear almost immediately (Sternberg, 1985).

This reality is of no consequence to Christensen et al. They are aware of the flaw but have an agenda to push: “...while you might not agree with the schematic we chose, that’s not the point. ... we merely introduce this theory... so that readers can visualize how students might learn in different ways...” (25) Co-author Michael Horn has stated on the Internet that “Learning styles in particular is a flawed construct” (Barbour, 2008:comments). Multiple Intelligences theory was chosen because of its appeal to computer programmers who think in modular paradigms, not due to any bearing on the reality of learning theory or pedagogy. The theory has influenced and inspired classroom practice, to be sure

(Moursund, 2006). As long as there's money to be made the intended audience of this book couldn't care less that within a decade of its appearance, and over a decade ago, many experts concluded "MI theory offers a level of analysis neither empirically plausible nor pedagogically useful" (Klein, 1997) and in the light of brain research that has emerged in the decade since...

"In the end, Gardner's theory is simply not all that helpful. For scientists, the theory of the mind is almost certainly incorrect. For educators, the daring applications forwarded by others in Gardner's name (and of which he apparently disapproves) are unlikely to help students. Gardner's applications are relatively uncontroversial, although hard data on their effects are lacking. The fact that the theory is an inaccurate description of the mind makes it likely that the more closely an application draws on the theory, the less likely the application is to be effective. All in all, educators would likely do well to turn their time and attention elsewhere." (Willingham, 2004)

A most important aspect of disruption to note is that it is recognized only in retrospect and hindsight, when the innovation is an accepted mainstream product and the disruption is *fait accompli*. You look back and realize that Apple disrupted mainframe computing, and then the "IBM-compatible" disrupted Apple. Some ventures may be more apparent than others, but it typically takes a sharp eye, a willingness to take substantial financial risk, and considerable perseverance to be a successful venture capitalist. As one such successful venture capitalist, Guy Kawasaki, explains,

Venture capitalists fantasize about putting \$1 million into a \$2 million pre-money company and end up owning 33% of the next Google. That's early stage investing. Do you know why we all know about Google's amazing return on investment? The same reason we all know about Michael Jordan: Googles and Michael Jordans hardly ever happen. If they were common, no one would write about them. If you scratch beneath the surface, venture capitalists want to invest in proven teams (eg., the founders of Cisco) with proven technology (eg., the basis of a Nobel Prize) in a proven market (eg., ecommerce). We are remarkably risk averse considering it's not even our money. (Kawasaki, 2006)

For all their Harvard savvy, Christensen et al do little to reconcile their predictions for the future of education reform with this aspect of the venture capitalist psyche. Neither do they come close to appreciating the difficulty of creating quality curriculum addressed to even one learning style. Remediation, gifted learners, suspension and expulsion, or self-induced exclusion due to bullying... these are complicated problems without clear solutions that often require face-to-face expert counselling and intervention. Programmers and entrepreneurs will likely react, "Surely there must be an easier path to the quick money and fast return sought by my investors." Co-author Michael Horn reveals the search

for easy new markets to exploit is well under way, and reminds us of the importance of our inquiry to global citizenship and democratic education in these opening sentences of his November 5, 2009 blog entry:

“Areas of nonconsumption are often the most promising places to look for disruptive innovations. What’s hard about looking for these places is that, by their definition, there is no market and no data yet. As I’ve written before, nowhere is there more nonconsumption in education than in the developing world.” (Horn, 2009)

Average software programmers, who the authors have told us will be replacing textbooks in the first stage of disruption, are clearly out of their element when it comes to complex pedagogy, but will turn to the task of creating platforms and the technical foundations of networks that will enable non-programmers to design and distribute applications themselves. We are led to believe that in the second stage parents and students will eschew schools and teachers altogether to collaborate on ever more sophisticated means of self and peer-to-peer instruction. One immediately envisions the immense potential for inequity in such a vision: how many such tutorials will working or under-educated or non-English-speaking parents create? What about unequal opportunity for computer access?

But I’ll not dismiss this idea so quickly, instead I’ll raise the spectre of an educator’s far more believable scenario. Dave Moursund (2005) of the University of Oregon and the Oregon Technology in Education Council commenting on two articles that discussed rapidly advancing computer speeds and virtual intelligence modelling said the following:

I believe that over the long run, Highly Interactive Intelligent Computer-Assisted Learning (HIICAL) will become a steadily increasing component of education. If integrated into the ordinary school classroom, this will gradually change the role of teachers. HIICAL will gradually take over more and more of the role of the teacher as delivery-of-instruction person as well as a person who provides much of the feedback that students receive through and during the instructional process.

This situation has the potential to have a significant fiscal impact on schools. During the time that students are engaged in HIICAL, it may turn out that more and more of them are supervised by a para professional whose rate of pay is significantly less than that of a teacher. It is also possible that an increasing amount of this HIICAL student time might be spent outside of schools, with no supervisory costs to the school system. Moursund (2005)

It will be interesting to see how this develops in the future, and how it affects teacher salaries and other aspects of teacher jobs.

Yet as Michael W. Apple reminds us, “Schools have played central roles in the creation of movements for justice.” (2005:226) The very disputes and struggles over what should be taught, relationships between schools and the communities in which they are located, over the ends and means of the institutions themselves have “provided a crucible for the *formation* of larger social movements toward equality. [...] Without organized, communitywide mobilizations, these transformations would not have occurred. This is under threat currently” (Apple, 2005). Schools are certainly not perfect, and the arguments that we’ve given traditional fixes plenty of chances is hard to refute. But circumvent the circumventers we must. “If the public domain shrinks to nothing, the idea of commonality disappears with it. Without any shared public domain, there is no area of life in which all citizens meet and interact as equals...” (Kerr, 2001 cited in Reid, 2005:287).

“What can, or *should*, educators do with this information?” (Conclusion)

A man is born gentle and weak.
 At his death he is hard and stiff.
 Green plants are tender and filled with sap.
 At their death they are withered and dry.
 Therefore the stiff and unbending is the disciple of death.
 The gentle and yielding is the disciple of life.
 Thus an army without flexibility never wins a battle.
 A tree that is unbending is easily broken.
 The hard and strong will fall.
 The soft and weak will overcome. (Tao Te Ching, LXXVI)

Helen Raduntz (2005) is adamant about the threat:

...the marketization of education has all the hallmarks of an entrepreneurial takeover executed with blitzkrieg precision backed by the trappings of legality and plausibly justified on the grounds of national economic survival in the face of global competition. Dispossession-based marketization is a strategy that has served capitalism well in its phenomenal growth and expansion. For many educators and concerned citizens, the dispossession of education and the limiting of its goals to profit maximization for the enrichment of the few is a travesty that requires resolute rectification. [...] the motive for education’s marketization lies not within the political or educational arenas but in attempts to revive the capitalist economy in the current period of flagging profits. The likely consequence of the capture of education services by private enterprise is a debased education limited in quality and scope; and this is so despite the dependence of the globalizing capitalist economy on quality education.

The political task then is to work toward capitalism's economic structural transformation from whatever vantage point. The task can be assisted by the realization that while capitalism appears to be all-powerful, it is in fact, as the above analysis has sought to demonstrate, an extremely fragile system. This knowledge places agitation for change on a sound theoretical foundation.

Michael W. Apple agrees, but says this transformation can not be accomplished without listening to all stakeholders:

Yet I also want to indicate that we should not ignore the fact that there are clear elements of *good sense* in its criticisms of the bureaucratic nature of all too many of our institutions, in its worries about the managerial state, and in its devotion to being active in the education of our children.

In my mind, the task is to disentangle the elements of good sense evident in these concerns from the selfish and anti-public agenda that has been pushing concerned parents and community members into the arms of the conservative restoration. The task of public schools is to listen much more carefully to the complaints of parents and activists and to rebuild our institutions in much more responsive ways. As I have demonstrated in *Cultural Politics and Education* (Apple, 1996), all too often public schools push concerned parents who are not originally part of neoliberal and neoconservative cultural and political movements into the arms of such alliances by their defensiveness and lack of responsiveness and by their silencing of democratic discussion and criticism. Of course, sometimes these criticisms are unjustified or are politically motivated by undemocratic agendas. However, this must not serve as an excuse for a failure to open the doors of our schools to the intense public debate that makes public education a living and vital part of our democracy (Apple, 1996,1999).

We have models for doing exactly that (Apple and Beane, 1995). There *are* models of curricula and teaching that are related to community sentiment, that are committed to social justice and fairness, and that are based in schools where both teachers and students want to be (Apple et al., 2003). If public schools do not do this, there may be all too many parents who are pushed in the direction of anti-public-school sentiment. This would be a tragedy both for the public school system and for our already withered sense of community that is increasingly under threat.

Disrupting Class's business perspective is astute and on many levels incontestable within the context of the business models it identifies. It brings to the literature a descriptive common language that has already proven very useful in describing many relationships that can be found in the economics of education and between its stakeholders. Turning this language inward on the Theory of Disruptive Innovation, however, reveals a business community *status quo* itself carrying out the processes of self-entrenchment, attempting to *cram* advances in technology and the emerging social networking tools in order to preserve and expand its own power and privilege. The fate suffered shortly after this book's publication by Merrill Lynch, a company touted throughout the book as a successful disruptive

innovator whose success depended on non-regulation (142), should raise an alarm for anyone bent on placing too much weight on its management methods.

Disrupting Class is best understood as a set of predictions and trends to watch, and as an analytical toolset — not as a set of prescriptions for courses of action. In the authors’ own words “head-on attacks almost never work” (142).

Educators who look at the problems and challenges facing education holistically, rather than prescriptively, should take the time to understand what this book is saying, don protective eyewear and steel-toed boots when in the presence of power tools, cram worthy software into their repertoire of teaching tools, master the tools of cooperation and consensus — and then look to other paths to reform, ones that in the words of Alan Reid (2005)...

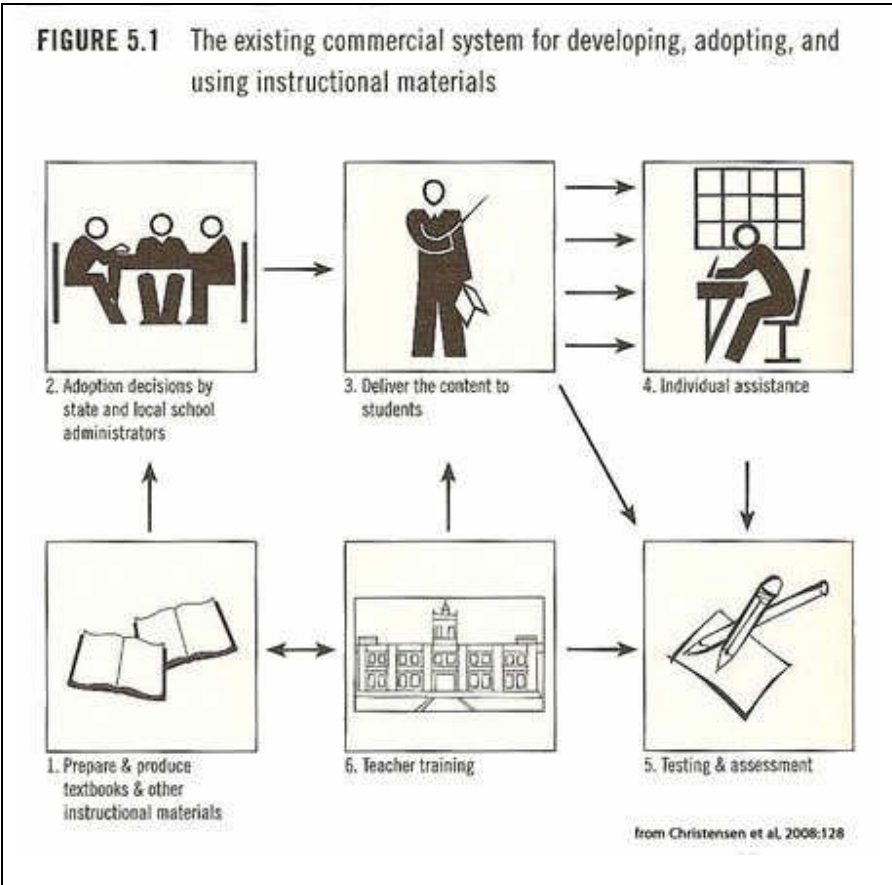
- increase citizen involvement in decision making at the global level as well as at the level of the nation-state, by working to establish structures and processes that advance the democratic project
- reclaim the public sphere by advocating notions of mutuality and community above those of selfish individual interest
- establish processes of negotiating ecological and multicultural diversity within a commitment to cohesion in our civic and political life

Global citizenship education and aspirations that foster openness, sharing, and cooperation between people, sectors, regions, and nations will prove more sustainable and result in a more equitable society. Technology will be a part of it; resistance is futile. To bend with these winds of change educators must stay engaged with the technology and welcoming of the many changes they will witness in a long life of learning. Ultimately it is educators, not dehumanized business concerns or corporate entities, who will place the needs of real, live learners for relevant, meaningful learning ahead of the need of power and privilege for compliant constituents and employees who are easily led and not inclined to think for themselves. ☺



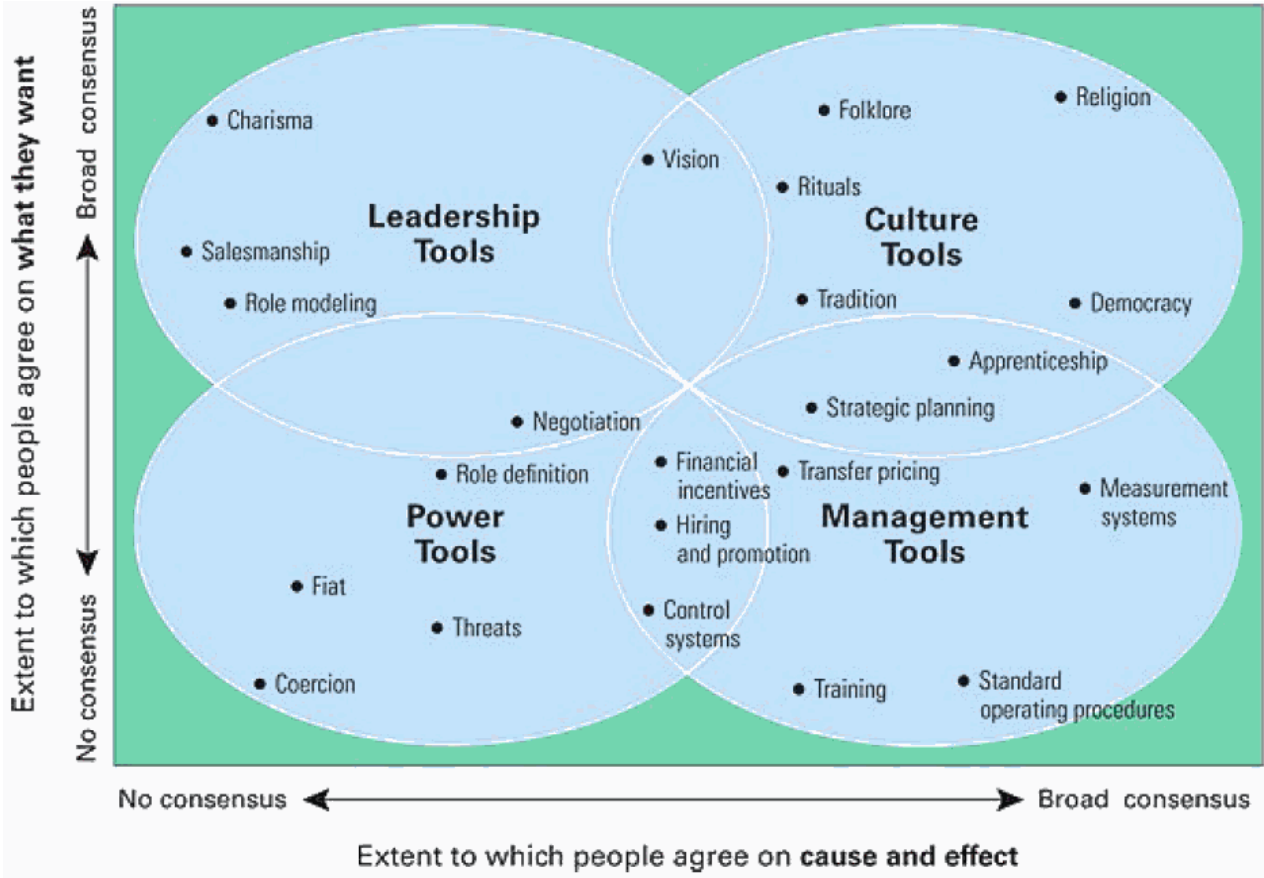
This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivs 2.5 Canada License](https://creativecommons.org/licenses/by-nc-nd/2.5/ca/).

APPENDIX A



First, subject-matter experts create textbooks and other instructional tools, which codify the concepts to be taught and the methods used for teaching them. Curriculum experts at the state and local levels then make decisions about which textbooks to adopt. Teachers then deliver the content to the students—typically en masse, though sometimes individually—and the extent to which students learned what they were taught is assessed. Teacher training sits in the middle of this and reinforces how all these steps work. (128-132)

APPENDIX B



References:

- Abi Samra, Nada (2001) Team Building Workshop - Cooperative Learning, notes for workshop presentation, retrieved from <http://www.nadasisland.com/team/cooplearning.html> 2009-12-12
- Apple, Michael (2005) Are markets in education democratic? Neoliberal globalism, vouchers, and the politics of choice in Apple, M. W.; Kenway, J.; & Singh, M. (Eds.). *Globalizing Education: Policies, Pedagogies and Politics*. (2005/2007) New York: Peter Lang.
- Barbour, Michael K. (2008) Personal blog Virtual High School Meanderings October 28, 2008 posting, a “live blogging” of co-author Michael Horn’s keynote at Virtual School Symposium 2008 held in Phoenix, Arizona <http://virtualschooling.wordpress.com/2008/10/28/disrupting-class-how-disruptive-innovation-will-change-the-way-the-world-learns/> retrieved April 13, 2009
- Bentley, Tom (2008) *Innovating to Learn, Learning to Innovate*, Organisation for Economic Co-operation and Development Centre for Educational Research and Innovation.
- Bernanke, Ben S. (2009) - Four Questions about the Financial Crisis, Speech given by Chairman Bernanke at Morehouse College, Atlanta, Georgia April 14, 2009 [Retrieved from <http://www.federalreserve.gov/newsevents/speech/bernanke20090414a.htm> 2009/12/13].
- Christensen, Clayton; Johnson, Curtis W.; and Horn, Michael B. (2008) *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* New York : McGraw-Hill
- Christensen CM, Marx M, Stevenson HH. (2006) *The Tools of Cooperation and Change*, Harvard Business School: Boston, USA
- Davies, Ian, Evans, Mark and Reid, Alan (2005) Globalising Citizenship Education? A Critique of ‘Global Education’ and ‘Citizenship Education’ *British Journal of Educational Studies*, 53(1), March 2005, pp 66–89.
- Dimmock, Clive (2002) ‘School Design: A Classificatory Framework for a 21st-Century Approach to School Improvement’, *School Effectiveness and School Improvement*, 13: 2, 137 – 162.
- Dimmock, Clive and Walker, Allan (2000) Globalisation and societal culture: Globalisation and societal culture: Redefining schooling and school leadership in the twenty-first century, *Compare* 30(3) 303-312.
- Duffie, Darrell and Rahi, Rohit (1995) - Financial Market Innovation and Security Design - An Introduction.
- Elul, Ronel (1995) - Welfare Effects of Financial Innovation in Incomplete Markets Economies with Several Consumption Goods.
- Fudenberg, Drew and Levine, David K. (2009) Self-confirming equilibrium and the Lucas critique, *Journal of Economic Theory* 144 (2009) 2354–2371.
- Gardner, H. (1983/2003). *Frames of mind. The theory of multiple intelligences*. New York: BasicBooks.
- Gatto, J. (2000) *A Different Kind of Teacher: Solving the Crisis of American Schooling*, Berkeley Hills Books
- Handy, Erbe, Blackham, Antonier (1993) *Made in Japan: Transistor Radios of the 1950s and 1960s*, San Francisco: Chronicle Books.
- Hansen, Gary D. and Imrohorglu, Selahattin (2009) - Business cycle fluctuations and the life cycle - How important is on-the-job skill accumulation, *Journal of Economic Theory* 144 (2009) 2293–2309.
- Horn, Michael (blog post: Oct 30, 2009) The power of a heavyweight team to rethink education: A quest to learn Retrieved 2009-12-06 <http://disruptingclass.mhprofessional.com/apps/ab/2009/10/30/the-power-of-a-heavyweight-team-to-rethink-education-a-quest-to-learn/>.
- iJump TV (2009) 3-minute book review: *Disrupting Class* - iJumpTV #44 Jan. 2009 retrieved 2009-12-06 from <http://video.google.com/videoplay?docid=8095770659709260732> .
- Johnson, D., Johnson, R. & Holubec, E. (1998). *Cooperation in the classroom*. Boston: Allyn and Bacon.
- Kawasaki, Guy (2006) *The Top Ten Lies of Venture Capitalists* (blog entry, Jan. 5, 2006) retrieved from http://blog.guykawasaki.com/2006/01/the_top_ten_lie.html 2009-12-10
- Klein, Perry D. (1997) Multiplying the Problems of Intelligence by Eight: A Critique of Gardner’s Theory *Canadian Journal of Education / Revue canadienne de l’éducation*, Vol. 22, No. 4 (Autumn, 1997), pp. 377-394
- Kocherlakota, Narayana and Phelan, Christopher (2009) - On the robustness of laissez-faire, *Journal of Economic Theory* 144 (2009) 2372–2387.
- Kohn, A. (1996). *Beyond discipline: From compliance to community*. Alexandria: Association for Supervision and Curriculum Development.
- Maitles, Henry and Gilchrist, Isabel (2006) ‘Never too young to learn democracy!': a case study of a democratic approach to learning in a Religious and Moral Education (RME) secondary class in the West of Scotland’, *Educational Review*, 58(1), 67 – 85.
- Moursund, Dave (2006) *Parents’ Guide to Computers in Education*, retrieved from <http://uoregon.edu/~moursund/Books/Parents/Parents-Guide.html> 2009-12-26
- Moursund, Dave (2005) *Computer Simulation of the Human Brain & Teacher Salaries*; two commentaries at <http://otec.uoregon.edu/index.htm> accessed 2009-12-12
- Ohanian, Lee E. (2009) What – or who – started the great depression, *Journal of Economic Theory* 144 (2009) 2310–2335.
- Osler, Audrey & Vincent, Kerry (2003) *Girls and Exclusion: rethinking the agenda*, London: Routledge.
- Raduntz, Helen (2005) The marketization of education within the global capitalist economy in Apple, M. W.; Kenway, J.; & Singh, M. (Eds.) *Globalizing Education: Policies, Pedagogies and Politics*. (2005/2007) New York: Peter Lang.
- Reid, Alan (2005) Rethinking the democratic purposes of public schooling in a globalizing world in Apple, M. W.; Kenway, J.; & Singh, M. (Eds.) *Globalizing Education: Policies, Pedagogies and Politics*. (2005/2007) New York: Peter Lang.
- Rodriguez-Romero, Mar (2008) - *Situated Pedagogies, Curricular Justice and Democratic Teaching in Innovating to Learn, Learning to Innovate* - OECD.
- Sand, Norbert (1944) The Classics in Jefferson’s Theory of Education *The Classical Journal*, Vol. 40, No. 2 (Nov., 1944), pp. 92-98.
- Schweisfurth, Michele (2006) - Education for global citizenship - teacher agency and curricular structure in Ontario schools *Educational Review*, 58(1), 41 – 50.
- Slavin, Robert E. (1980) Cooperative Learning, *Review of Educational Research*, 50(2) 315-342
- Stark, Chris D. (2005) Patently Absurd: The Ethical Implications of Software Patents *TechTrends*; Nov/Dec 2005 49(6) 58-61.
- Sternberg, R. J. (1985): *Beyond IQ: A triarchic theory of human intelligence*. New York: Cambridge University Press.
- Wolff, Michael F. (1993) Creating High-Performance Teams, *Research Technology Management* 36(6) 10-12