

Virtual Schooling: Disrupting the Status Quo

By Michael Horn

*Cofounder & Executive Director, Innosight Institute
Adjunct Scholar, The James Madison Institute*



“Learning need not be confined to regular school hours or even an academic calendar. With education taking place online, students could learn any time, any place, any path, any pace.”

Ever since the creation of the Florida Virtual School (FLVS) in 1997, Florida has been among the nation’s leaders in the fast-growing online learning movement. From humble origins serving 77 students with a start-up \$200,000 Florida Department of Education “Break the Mold” grant, FLVS grew to serve more than 70,000 students in the 2008-2009 school year.

FLVS is not the only online provider serving Florida students. Several others provide a variety of offerings in a variety of arrangements. In part because of 2008 legislation mandating that every school district must provide students with an online learning option, Florida districts have entered into contracts with online learning providers of every stripe to help them with home-schooled students, credit-recovery options, dropout-recovery programs, and advanced courses, to name a few.

Even with this growth of online learning in Florida, many observers continue to see it as merely a small item on the education menu, providing students with more choices that may better fit their educational needs. Yet online learning is much more than that. It is a disruptive innovation that has the potential to help transform the present-day monolithic, factory-model education system into a student-centric and far more affordable one that is suited to the needs of the 21st Century.

Florida is widely viewed as an early leader in this movement — not just because of the sheer volume of its online students, but also because of some of the policies it has put in

place to create a higher-quality offering centered on student needs. Interestingly enough, most of these policies only touch FLVS, not other online providers serving students in the state. As a result, there are still significant opportunities for Florida to do much more with online learning. If the state plays its cards right, it has the potential to provide many more students and families with quality choices for their education and, in the process, to transform public education.

Today’s Schools, Yesterday’s Needs

The education system Americans have today was created in the early 1900s to serve a different time with different needs. In 1900, there were 200,000 one-room schoolhouses gracing the countryside. Only 50 percent of 5- to 19-year olds were enrolled in school. One-third of children enrolled in first grade made it to high school, and of those, only one-third graduated.¹

A mini-crisis with a fast-rising industrial Germany prompted a change. Americans asked public education to prepare everyone for a vocation in the industrial age of factories and Frederick Taylor’s time-and-motion studies. To do this, the school system changed gears and began extending high school to everyone. In just one generation, America built a comprehensive high school system that enrolled 75 percent of the students who had started in first grade and graduated 45 percent of them. That number continued to rise throughout most of the 20th Century in a remarkable story of success.

How did the country accomplish this? With the most economical model it knew — the factory. Adapting the new industrial model, educators borrowed the concept of processing students in batches, with a fixed time spent in each stage of the process of assembling an educated person. This enabled American education to cope with the burgeoning student population in the early 20th Century. By instituting grades and having a teacher focus on just one set of students of the same academic proficiency, the theory went, teachers could teach “the same subjects, in the same way, and at the same pace” to all children in the classroom. Progressive thinkers of that era encouraged the practice, and the resultant school system is still in place today.²

Need for Transformation

This unbridled success has come at a price, however. As the U.S. economy has shifted from an industrial model to a knowledge-based one, society is increasingly asking our schools to do something very different from the purpose for which they were built.

The school system we have today was built to standardize and treat students in massive batches. When most students would grow up to work in a factory or an industrial job of some sort, this standardization worked just fine. But now that we ask more students to master higher order knowledge and skills — in 1900 only 17 percent of all jobs required so-called knowledge workers whereas over 60 percent do today — this arrangement falls short.³

The reason, to put it simply, is that everyone learns differently. Most of us know this intuitively. We learn best through different methods, with different styles, and at different paces. We remember being in school and struggling to master a concept while a friend grasped it immediately. When a parent or a teacher would explain the same concept in a different way, however, we understood. We had friends who excelled in certain classes but struggled in others.

Academic research increasingly supports this notion. But although there is considerable certainty that people learn differently, considerable uncertainty persists about what those differences are.

Just as it is intuitive to us that we learn differently from one another, it is also intuitive that because of this, each of us could benefit from a customized learning approach to maximize our potential. When an educational approach is well aligned with one’s intelligence or strongest aptitudes, understanding can come more easily and with greater enthusiasm.

This clashes directly with today’s factory-model school system, which was built to standardize. When a class is ready to move on to a new concept, all students move on, regardless of how many have mastered the previous concept

(even if it is a prerequisite for learning what is next). On the other hand, if some students are able to master a course in just a few weeks, they remain in the class for the whole term. It does not matter whether a student grasps the idea and grows bored with the repeated explanations or sinks deeper into bewilderment, unable to grasp the logic — the student sits in the class for the duration. Both the bored and the bewildered see their opportunity to achieve shredded by the system.

To customize instruction in today’s school system is prohibitively expensive. Just witness how much more it costs to design an individualized learning plan for a special needs student. As a result, over the last three decades, special education has drawn increasingly more funds and has made the overall system increasingly unaffordable without the overall results to show for it. In many districts, special education now accounts for more than one-third of the spending.⁵

If the goal is to educate every student to the highest potential, we need to transform our education system from the present-day monolithic model, where time is fixed and learning is variable, into a student-centric one with a modular design that enables *affordable* mass customization, where time becomes the variable so learning can be the constant.

How to Transform Education

The key questions are these: In a time of pending budget cuts and the need to do better with fewer resources, can we even dare to contemplate such a transformation? And, if so, how might we accomplish it?

The first answer is yes, and the way forward lies in the power of disruptive innovation. The process of disruption is the one by which fundamental transformation in a sector occurs. Disruptive innovations transform sectors characterized by expensive, complicated, and inaccessible products and services into ones where simplicity, affordability, and accessibility reign.

At the outset, they may tend to be not as good as the existing products and services – at least as judged by the historical measures of performance. As such, to be successful, a disruptive innovation must not compete initially against the existing paradigm by serving existing users; rather, it should target those not being served — people we call non-consumers. That way, all the new approach has to do is be better than the alternative — which is nothing at all.

And little by little, disruption innovations predictably improve. At some point, they become good enough to handle more complicated problems and then — armed with their new value proposition around simplicity, affordability, and accessibility — they take over and supplant the old way of doing things.

It happens in all sectors — from computing, where personal computers transformed a sector by disrupting mainframe and minicomputers, to accounting, where many now use TurboTax instead of accountants for their taxes. It has even happened in postsecondary education, where community colleges and online universities have progressively made education more convenient and affordable.

The Online Learning Disruption

This is where online learning enters the equation, as it appears to be a classic disruptive innovation with the potential not just to help reform education but to transform it. From its meager beginnings over a decade ago as mere PowerPoint presentations online with a remote connection to a teacher, it is improving along many dimensions as it gains share. And it has gained traction by targeting classic areas of non-consumption. In Florida, it first served students in rural schools who did not have access to courses at the bricks-and-mortar school and students in urban schools who did not have access to certain courses because of scheduling conflicts and overcrowded classrooms. It continues to serve areas of non-consumption as it has advanced into serving home-schooled students, students who did not have access to advanced courses, and students who had previously failed a course and did not have a way to retake it, just to name a few.

Its growth is following a classic disruptive pattern. From roughly 45,000 enrollments⁴ nationwide in the year 2000, there were around 1 million enrollments in 2007, and online learning is growing nationally at over 30 percent a year in K-12 education. According to our projections, in just under 10 years, 50 percent of the nation’s high school courses will be taken online.

Creating a Student-Centric System

Change in education is happening much faster than we might expect, although it is still gradual in comparison with the pace of change in many other elements of society. The potential for online learning to help bring about a more student-centric system is certainly there, but whether that happens depends on the actions taken in the coming years.

When Julie Young began the Florida Virtual School in 1997, she saw an unprecedented opportunity to redo education from the beginning and address one of the fundamental problems in the present system — namely by solving the time constant-learning variable problem identified in the Department of Education’s 1994 “Prisoners of Time” report.⁶ Among the many key insights in the creation of FLVS was the realization that online learning need not be confined to regular school hours or even an academic calendar. With education taking place online, students could learn “any time,

any place, any path, any pace.” Confining it to a brick-and-mortar space with seat-time restrictions and the like would, in fact, ruin the strength of the new format.

In 2003, the Florida Legislature enacted a provision that has proved to be more far-sighted than anyone realized at the time. When it voted to include FLVS in the state-funding formula for K-12 education, the action accomplished two crucial things. First, it gave the school a self-sustaining funding model by which FLVS could grow organically and according to student demand, as the dollars would follow the students. Second, it approved this funding change with a performance-based provision by which the school would receive per-pupil funds only for those students who successfully completed and passed their courses. A performance-based funding system made FLVS more accountable for its output measures than the bricks-and-mortar schools, and it also enabled the school to escape the seat-time restrictions, thereby preserving the flexibility that was so key to online learning.

This move spurred the growth of the Florida Virtual School, but it also pushed education toward a mastery-based model where the state does not pay unless the student is actually successful. And not only was this helpful to students, but it also put in place a model that is more affordable than the existing school system. When an apples-to-apples comparison is made between the per-pupil instructional costs of FLVS and traditional bricks-and-mortar schools, FLVS is less expensive.

Affordability has driven the adoption of some other online learning in the state as well. As we discussed earlier, online learning has gained traction in classic areas of non-consumption. For districts and their schools that have been unable to afford offering certain classes or that lack enough student demand to justify hiring a fulltime teacher, online learning has been a welcome solution. By allowing districts to spread costs across different school sites — in and outside of the district — online learning presents a far more affordable way to offer certain courses. With budget cuts, online learning has also allowed districts to continue providing classes that otherwise might have become too costly. There is also early evidence that the absolute cost of online courses is lower because providers can use teachers and other staff resources in novel ways — the online medium allows for redefinitions of teacher’s roles to work with students one-on-one far more than is currently possible.

Florida’s Golden Opportunity

The opportunity now before Florida is to create a true student-centric environment in which each student has access to a marketplace of educational options — and therefore has true choice not limited by his or her geographic boundaries.

Disruption enhances the possibility of true choice for students because online learning is not limited by family circumstances or by geographical factors such as driving distances. Students will, in time, be able to find content and teacher options that match their unique learning needs and appeal to their deepest passions.

This would be an escape from schooling as we have known it. By gradually opening up online learning to new providers and allowing different, trusted people in any position or location to create modules of content, teach online, and so forth, Florida can play an instrumental role in making this happen.

There is a danger, of course, that if the correct policies are not in place as students and districts increasingly flock to online learning solutions, there will be a “race to the bottom” based only on price and not on quality. This would not lead to a student-centric system. Therefore, Florida policymakers must help to create the proper environment that does not ignore quality. Interestingly, in many cases policymakers have set up elements that create a more student-centric environment focused on quality for the Florida Virtual School, but have not done the same for other providers.

A key is to realize that because disruption competes on new metrics, we should not impose the old metrics on this emerging system. For example, Florida policymakers must continue to shift the focus from input metrics – i.e. how much money is being spent — and instead focus on outcomes. No longer should regulations about the students’ required seat-time govern the granting of credit and funds; instead, in what is maybe the most important policy of all, we should tie credit and funding to mastery of the subject matter in order to keep time as the variable and learning as the constant, thereby realizing the full promise of online learning. Neither should policies that cap student-teacher ratios based on the traditional classroom apply here because that could limit what innovative learning models we may see in the future — from ones that may incorporate novel team teaching concepts to new differentiated roles for teachers to cognitive tutor innovations and on and on. Policymakers should encourage learning innovations that can help students reach true mastery faster and for less money.

Moving in this direction will also fulfill many of the objectives that are focuses of other current education movements. Instead of perceiving online, student-centric learning as a bit part in that transformation, policymakers should recognize that it is in fact a holistic strategy for accomplishing many of the goals in *Race to the Top* and the extended learning time movement.

As many have observed, using online learning is an affordable way to extend the time for a student’s education. As budget cuts force some districts to reduce the hours of student contact or even move toward a four-day school week — all

this despite evidence that many students really need more time learning, not less — online learning can play a big role in making sure that we don’t sacrifice students’ futures.

With *Race to the Top*, President Obama’s Administration identified four broad goals for reforming education: develop common, internationally-benchmarked standards and assessments; improve the effectiveness of teachers and principals; use data to inform decisions; and turn around the lowest-performing schools.

Online learning has a role to play in each. Adopting common, internationally-benchmarked standards and assessments can help in moving online learning toward an efficacious, mastery-based system. Where a student lives in Florida no longer needs to be the reason he or she does not have access to a highly effective teacher. Florida should use data systems not only to measure competence but also to continuously inform educators as to what a student needs — and when – in order to craft an individualized path toward competency for each student. And for low-performing schools, online learning can be a powerful tool for credit- and unit-recovery to help students.

As online learning continues to gain share in the coming years, Florida policymakers have an exciting opportunity in their midst. Florida is the national leader, thanks to their far-sighted policies in the past. To fulfill its early promise, policymakers now must craft the right policies. As online learning continues to grow, Florida must guard against simply replicating the factory-model system online. Instead, Florida should take the lead in creating a wholly new education system that is affordable for the future, based on a mastery of competencies, and is student-centric so that each child can reach his or her fullest potential.

Michael B. Horn is a cofounder and an executive director of Innosight Institute. He holds an AB from Yale and an MBA from Harvard. Mr. Horn is coauthor of Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns.

Endnotes

- 1 *Disrupting Class*, p. 54.
- 2 *Disrupting Class*, p. 35.
- 3 Patrick Butler et al, “A Revolution in Interaction,” *McKinsey Quarterly* 1:8, 1997 as cited in Michael E. Echols, *ROI on Human Capital Investment*, 2nd Edition, (Tapestry Press: Arlington, 2005), p. 3.
- 4 Stacey Childress and Stig Leschly, “Note on U.S. Public Education Finance (B): Expenditures,” HBS Case Note, November 2, 2006, p. 5.
- 5 An enrollment is defined as any instance of a student taking a half-credit course; one student, therefore, can be responsible for several enrollments.
- 6 “Prisoners of Time,” www2.ed.gov/pubs/PrisonersOfTime/Prisoners.html, accessed March 21, 2010.