

**Price Competition and Course-Level Choice in K-12 Education:
Lessons from Higher Ed**

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Ever since the Internet exploded onto our global consciousness in the mid-1990's, technology evangelists have claimed that distance education could drive improvement in the three basic educational constraints at the K-12 and post-secondary levels. By removing geographic and temporal constraints, distance education could increase *access* to education for previously underserved groups. By reducing the overhead associated with buildings and by using digital technologies to drive the cost of content production and delivery down, distance education could dramatically reduce the *cost* of course delivery. By taking advantage of cheap and ubiquitous communications infrastructure and sophisticated learning management systems, education *quality* could be maintained or even improved.

Indeed, over the last decade distance learning has become an accepted and popular method of education in post-secondary education, and, increasingly, in K-12 education. Over 3.9 million post-secondary students, about 20% of all post-secondary students, were taking at least one online course during the fall 2007 term: a 12 percent increase over the number reported the previous year. The 12 percent growth rate for online enrollments far exceeds the 1.2 percent growth of the overall higher education student population.¹ For K-12, the overall number of students engaged in online courses in 2007-2008 is estimated at 1,030,000. This represents a 47% increase since 2005-2006.² In higher education, the students taking distance education courses have tended to be non-traditional students who are older, have jobs, or have other commitments that would impede participation in a more traditional college program. K-12 students taking courses at a distance tend to take electives that are not offered at their school or have non-traditional characteristics making enrollment in traditional school difficult.³ It seems that the growth of distance education has practically eliminated the problem of access. Further, because all of these post-secondary and K-12 students are getting credit for their distance

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education courses from accredited entities, it is assumed that course quality is at least comparable to face-to-face course quality.⁴ But what about cost?

By relying on servers instead of buildings, digital content instead of print textbooks, courseware instead of lectures and remote instructors rather than in-person instructors, distance education reduces the cost of course delivery. By stripping non-academic functions from the educational experience, it eliminates the built-in subsidies necessary to support athletic teams, student centers, dormitories, cafeterias, some student support services and other traditional university and school functions. Lastly, by amortizing what infrastructure costs do exist across a much larger customer base, distance education can further reduce the cost per course delivered. Despite the dramatically lower cost structure of a distance delivered course, the *price* of a distance education course – what a student actually pays as opposed to the course’s cost of delivery – remains, more or less, unchanged. Indeed, the price is usually the same, and sometimes higher, than the same course offered by the same provider in a face-to-face environment.

In an unregulated and unsubsidized market, this price vs. cost difference would not last long as new product choices from new or existing providers would drive the price down such it approached the cost. However, in post-secondary and K-12 education, this dramatic difference between price and cost is maintained by a variety of regulatory, policy and economic barriers that thwart student-made course-level choices necessary for an effective course-level market mechanism. In post-secondary education, which has a longer history of online education than K-12, weak market forces are just now starting to create lower-priced options. For K-12, which has an even weaker market mechanism, lessons about how to create management structures to harness online education can be gleaned from higher education.

Policymakers for post-secondary and K-12 education are confronted with the same fundamental dilemma. How can the sudden and dramatic proliferation of course and service providers be harnessed such that the cost savings of this newly robust market are delivered to students and taxpayers? Though the dilemma is the same, regulatory structures for the two sectors are distinct. Unlike K-12 education, post-secondary education is not compulsory, not free, and colleges must attract students who are more mobile and self-directed. This market dynamic, though tempered by a variety of restraints, means that higher education is closer to dramatic disruption and price competition. By learning from post-secondary education and adapting these lessons to its particular economic dynamics, K-12 education can also create policy and management structures to harness the savings of new technologies.

Post-Secondary Barriers to Course Level Choice

Just how dramatic is the difference between price and cost in higher education? Astoundingly, there is little public data available about the per-student cost of course delivery by subject and institution. However, The National Center for Academic Transformation (NCAT), a non-profit group that has worked with hundreds of colleges to redesign high-enrollment courses to reduce costs and maintain or improve student outcomes, ran a grant program that required colleges to estimate the cost per student in specific courses before and after redesign. Using data from the 30 initial colleges (all of whom were public), it cost on average \$170 per student before redesign and \$111 per student after redesign.⁵ These colleges charge about \$1,000 per course and they receive state subsidies to boot. Further, a recent article in *Inside Higher Ed* said that, using data provided by the college to NCAT, it costs the University of Alabama \$82 per student to deliver an intermediate math class and Frostburg State University in Maryland spends \$25 per

student in an Introductory Psychology class.⁶ These two schools charge \$2,680 and \$2,100 for out-of-state student for a three-credit class.⁷ While it is impressive that colleges were able to reduce their cost per student and, in almost all cases, improve performance, the difference between the cost to deliver a course and the price charged – also known as profit margin -- for that course is extreme. Further, add in the cost benefits of online education and the gap between cost and price is even more dramatic. Why does higher education pricing defy traditional economics? What barriers prevent effective market mechanisms? Start by following the money...

Higher education prices to students are subsidized by direct grants to schools from state governments, direct grants to students from federal governments, subsidized loans, and tax-favored status. Wisely, to reduce their prices, prospective students prefer to rely on some combination of these subsidies when enrolling in post-secondary education. Accordingly, access to these funding streams is critical to the success of most post-secondary providers. The only way students can get access to these grants and loans is to enroll in a nationally or regionally accredited institution. This system creates a variety of barriers to competition. These are:

- 1) *Increased Start-up Costs, Start-up Time and Regulatory Burdens* – To receive accreditation, an applying college must offer a full degree program (as opposed to individual courses) and meet a variety of regulatory requirements designed to make a college look like other colleges. In addition, an applicant must have served students for several years before applying and review takes an additional 2-3 years. This dramatically increases overhead and lengthens the time to a return on investment, pushing prices up.
- 2) *Lack of Product “Inter-Operability”* -- Unlike K-12 education, course quality and performance standards are ambiguous from one college to the next, despite supposed

oversight from accreditors. This allows colleges to justify ambiguous and byzantine articulation policies. According to a 2005 General Accounting Office study, “institutions vary in how they evaluate credits, who makes the decisions to accept credits, and when credit transfer decisions are made. For example, some institutions evaluate transfer credits prior to student transfer, while others make final credit transfer decisions after student enrollment.... A student’s inability to transfer credit may result in longer enrollment, more tuition payments, and additional federal financial aid.”⁸ Without clear articulation policies, transferring courses taken from one provider to another is cumbersome and risky, making students “captive” to the institutions in which they first enroll. To put it another way, colleges are not “open source.”

- 3) *Lack of Financial “Inter-Operability”* – Student financial aid is delivered by and to the school in which the student enrolls. A student wishing to take a course from another provider must typically pay for that course out-of-pocket or transfer enrollment completely.⁹ By only being able to apply government subsidies at the institutional level, as opposed to the course level, course level choice is discouraged.
- 4) *Unequal Competition* -- Lastly, new education providers wishing to compete on price must overcome the significant price subsidies enjoyed by public, non-profit and for-profit colleges. Composed of direct state funding, federal grants to students and subsidized loans, this subsidy can be up to 70% or more.

Given the overhead required to start and maintain new colleges, the difficulty of transferring credits among schools, the barriers to using financial aid to choose competitive providers, the un-level playing field and the lack of performance information, it is not surprising that competitors

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who could deliver price reductions as a result of technological innovation are only now appearing.

Two new companies that are trying to take advantage of the dramatic price vs. cost differential are Higher Ed Holdings and StraighterLine. Higher Ed Holdings, a for-profit company run by a successful education entrepreneur, partnered with Lamar University in Texas to offer graduate degrees in teacher education through Lamar at half the price of Lamar's existing program. Higher Ed Holdings provided the marketing expertise, student services, content, and other resources in exchange for a significant percentage of the tuition revenue. The partnership yielded record enrollment. However, a similar program at the University of Toledo generated enough opposition from University of Toledo's faculty to prevent the program's implementation. StraighterLine, a company that I founded and run, offers general education courses that can be taken by students for \$99 per month plus \$39 per course and can be transferred into any regionally accredited college that adheres to the credit recommendations of the American Council on Education (ACE). Further, a group of regionally accredited partner colleges have agreed to award credit for the courses directly. In both cases, partnerships with existing regionally accredited colleges were necessary to jump-start the companies. For Higher Ed Holdings, a partnership was required such that its students could receive financial aid. For Straighterline, partnerships with accredited colleges were necessary because students needed a path to credit, and Straighterline needed to enroll enough students such that it could be reviewed by the American Council of Education. Unlike other post-secondary competitors, Straighterline has elected to forego financial aid in the hope that its prices are low enough that students won't need it. By forgoing financial aid, StraighterLine avoids the overhead and start-up costs required

by traditional accreditation, but also receives none of the governmental subsidies available to other education providers.

Public Post-Secondary Online Management Initiatives

Higher education administrators are aware of many of these barriers to innovation. It is an annual rite to complain about the unpopular but unavoidable price escalation. They are aware that their ability to demonstrate and compare effectiveness is insufficient. Institutions spend a large and increasing amount of money on new technologies with which they intend to save money and increase access to education. There are many, many efforts underway within higher education to address these problems. Unfortunately, most of these efforts serve to perpetuate existing structures or to respond to critics. Like in less restricted markets, market disruption that dramatically changes product features and cost structures almost never originates from those who would be disrupted. Existing players tend to make incremental changes that will appeal to their individual customers. For instance, the addition of non-academic amenities at a four-year college appeals to a particular subset of incoming students, yet pushes the overall cost structure up. Here are some common post-secondary technology and distance education initiatives that are not likely to change the cost and accountability problems of higher education.

- 1) *Statewide Collaborations* – In international trade, countries are happy to exchange the things that neither has. The U.S. is happy to import sushi and the Japanese are happy to import hamburgers. However, when both Japan and the U.S. want to send the other one its cars, negotiations get tense. Suddenly, tariffs, regulations, and motivated constituencies restrict trade. However, it is the trade in high-priced, ubiquitous goods that have the most beneficial impact on consumers. Similarly, colleges in collaborations are

happy to accept courses and programs not provided at their own college, but are much less likely to allow students to take courses already offered by the home institution. It is telling that many states have distance learning collaboratives, but most are structured as distance learning catalogs for the member institutions. Such an arrangement preserves college autonomy, without creating price competition among individual departments or courses. Similarly, articulation agreements and co-enrollment consortia are made by and among colleges that do not threaten the enrollments of the other members. Where there is a threat, regulations such as limitations on transferability or program distribution requirements, are often created.

- 2) *Voluntary Quality Assurance Programs* – In response to increased pressure on higher education to demonstrate accountability, several voluntary accountability programs that allow cross-institutional comparisons have emerged.¹⁰ While these programs represent an improvement over the current lack of comparable data, they still suffer from several critical problems. First, these programs are voluntary. The participants are few in number and, presumably, are the ones with little to hide. Second, the information is usually self-provided, creating an incentive to provide biased information. Lastly, given the two previous problems, cross-institutional comparison remains difficult.
- 3) *Content Collaboratives* – Classic economic theory states that the price of a good should equal its marginal cost of production. In other words, in a perfect market, the price of an item should equal the amount that it costs to produce one more unit of that item. Rightly, states have taken note of the fact that the marginal cost of electronic content is effectively zero. Therefore, electronic content produced by their institutions can be shared at almost no cost. In theory, this should reduce course development costs, textbook costs, and

speed the development of new courses. Merlot is a collaboration of 15 state college systems that contribute to a database of educational content objects – combinations of content and software that provide a lesson or explanation. Unfortunately, while there are many states and individuals who are willing to contribute to Merlot,¹¹ college governance structures, course development procedures, textbook adoption processes, and tuition policies conspire to limit the demand for free content. For instance, a professor has limited incentive to develop a course more cheaply because none of the benefits accrue to the professor. Further, even if the professor does develop a course more cheaply, that savings will not be passed on to the student. Lastly, even if the savings were passed onto the student, the percentage of the price structure, as opposed to the cost structure, that online content represents is negligible.

- 4) *Open Course Ware* – In 2002, the Massachusetts Institute of Technology (MIT) made headlines by announcing that it intended to put all of its course materials online and make them available to anyone for free. In the last fifteen years, this evolved into the Open CourseWare Consortium with well over 100 members across the globe. With such materials available, everyone would be able to benefit from MIT’s world class educational content. By providing free materials, the cost of education should decline. However, while content may be available, the credentialing component and selectivity components of MIT are not. Further, new education providers wishing to take advantage of this material must still navigate the accreditation and regulatory barriers necessary to award bonafide credits. Accordingly, despite having free materials and very low start-up costs for new course initiatives, prices to students haven’t budged. The lack of impact of

both content collaborative and open courseware should be a red flag for those supporting the \$500 million Online Skills Laboratory recently proposed by the federal government.

- 5) *Technology Adoption* – Colleges are eager to adopt new technologies. Most colleges offer some form of learning management system for both distance education and face-to-face classes. Most make extensive use of administrative tools to manage student data, grades, payments, and other necessary services. Overhead projectors, smartboards, “clickers” and other in-classroom technologies are extremely common. Most colleges offer some form of distance education. However, despite the presence of all of these technologies, costs continue to rise. Without changes in the regulatory and financing structures in which these technologies are embedded, the potential for cost and quality improvements will not be realized.

What Does This Mean for K-12?

Like post-secondary education, K-12 education, particularly at the high school level, suddenly has hundreds of course and service providers where there had been only a handful. Further, the proliferation of providers changes the existing and future set of education products and their price points. By aggregating students across a global service area, products that could only be used by a few students at each school can now serve thousands. Products that currently serve thousands can now serve millions more affordably by taking advantage of economies of scale. With a global service area, the speed with which students can complete courses, times in which they start courses, cost structures of offered courses, and elements of courses offered can vary dramatically and can be chosen by the student. Further, by aggregating the demand for services across a larger population, a wide variety of services – such as tutoring, college

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counseling, test preparation, career counseling and countless others – can be provided at comparable or cheaper price points and with better service levels than that offered by a school or district. With newly viable markets for niche products and even larger markets for mainstream products, the potential product and price point permutations are dizzying.

For example, a quick Internet search reveals that the Michigan Virtual High School offers regular and AP courses from \$109 to \$350 per seat. In addition, some of these courses are provided by a for-profit Advanced Placement course provider called Apex. Though not disclosed, Michigan Virtual High School must pay Apex a lower amount than they charge students directly.¹² The University of Oklahoma offers high school courses at \$180 per course with a variety of fees that can be added in.¹³ Dozens more, all with different price points, are listed. The prices might be subsidized if the courses come from in-state providers, might be market rate if it comes from private sector providers, or might be the cost of building and maintaining the course if built by the local school district.

However just because students can be aggregated to new levels, thereby creating new cost efficiencies and enabling a wide range of services, does not mean that they will. These online offerings are not just competing with each other, they also present a viable, and competitive, alternative to the face to face instruction that is the core service offered by schools and districts. This increase in service providers can create competition between the various providers *and* between providers and the school districts themselves. Like with post-secondary education, schools will either close their borders to the most threatening competitive services, thereby protecting their existing institutional capacity, or will create new management structures to harness the potential for quality improvement, cost reduction, and service innovation that is are hallmarks of competitive markets. In post-secondary education, student/consumer access to

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government subsidies depends upon enrolling through an accredited institution. This ensures that new competition happens between institutions, rather than between courses and services. To be accredited, these institutions must have cost structures that are reasonably similar and often have state-mandated common pricing. Early indications are that K-12 administrators will respond much as their higher education counterparts did a decade ago. When asked to rank the most and least important reasons for offering online courses, K-12 administrators said the three least important reasons (out of ten) were 1) students prefer online courses, 2) online and blended learning is more pedagogically beneficial, and 3) online and blended learning is financially beneficial.¹⁴

Should K-12 public education embrace the competition created by online education, the policy structure and choice mechanisms that they will need to employ will be different than those of post-secondary education. Though characterized by significant barriers to innovation, higher education remains a market with a consumer choice mechanism. Colleges do tailor their offerings, experiences, and messages to attract students. Students do choose from a variety of institutions, courses and, sometimes, the medium through which their coursework is delivered. Higher education students do move from school to school and do have the option to take classes at other colleges while enrolled at their home college, even if the class must be paid for out-of-pocket. As evidence, the number of “swirlers,” students attending more than one institution prior to graduation, and “co-enrollments,” students taking classes from one institution while enrolled at another, is growing. Also, students will pay more for program features like scheduling flexibility and tighter ties to employers. For instance, for-profit colleges typically charge tuition that is dramatically higher than that charged by community colleges for similar programs. Such willingness to pay signals at least a partially functioning market mechanism.

K-12, on the other hand, does not have the same market dynamic. The price of K-12 education is not just subsidized, it is completely covered. With a free alternative competing with any new entrant, market entrants who might force price competition at the course level are at a severe handicap. Further, because K-12 students are far less mobile, enrollment alternatives are few. Like in higher education, but with even fewer direct-to-consumer alternatives, K-12 third party course and service providers must either sell their wares directly to schools which then offer it to their students or create their own charter schools which, by virtue of the charter approval process, will have the same organizational and cost structure of other schools. Further, any kind of consumer payment for public education, no matter how much it was subsidized, would undermine the public, compulsory system that is a hallmark of the United States and other developed countries. On the other hand, K-12 education has done a far better job at defining educational outcomes at the course level. Simply having standards, even if there are 50 sets, allows far greater interoperability among schools and course providers. While K-12 education lacks an obvious course-level consumer choice mechanism, it has the potential to more quickly embrace additional course providers because of its “open-source” standards.

Because of these fundamental differences between post-secondary education and K-12 education, the solutions to harnessing student and taxpayer savings from the proliferation of third-party course and service providers are different. For post-secondary education, the levers to create course-level price competition are financial aid policy, accreditation, articulation, and the structure of government subsidies. Assuming policy barriers are removed or ameliorated, course-level price competition can be driven by consumers “voting with their feet” by taking their education dollars to the provider who offers the best value for any given student and course. In K-12, on the other hand, students typically cannot “vote with their feet.” Individual schools or

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school districts will need to create internal structures that allow student choice at the course and service level. What are the pre-requisites for these structures? What might they look like? What might the impact be?

“Intra-School” Choice

Intra-school choice is the ability to choose from a wide variety of courses and services provided by a variety of providers, all to be offered and paid for as part of a standard public education offering. A prerequisite for intra-school choice is the availability of things to choose from. Already, the growth of online learning has created many viable course providers. For instance, Clayton Christensen and Michael Horn, one a Harvard business school professor noted for his research on market disruption and the other the Executive Director of an education focused think tank, claim that predictive models of disruption in other industries suggest that 50% of high school courses will be delivered online by 2019.¹⁵ To provide these courses and services, “school districts typically depend on multiple online learning providers, including postsecondary institutions, state virtual schools and independent providers as well as developing and providing their own online courses.”¹⁶

Other educational services, either traditionally provided by a school district or new services enabled by student aggregation, can be purchased and provided directly to students. These include online tutoring services, essay grading services, college counseling, career counseling, test preparation and others. The power of student aggregation is evident in the growth of on-demand, online tutoring companies. Companies like SMARTHINKING (www.smarthinking.com), a company that I founded and ran for 10 years, and Tutor.com (www.tutor.com) aggregate the demand for instruction across educational institutions and the

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supply of tutors across the globe to create qualified, live academic help available 24 hours a day, 7 days a week. A school simply does not have the scale to provide such a level of service at comparable price points. In some cases, such as StraighterLine's (www.straighterline.com) college courses, these tutoring services can fulfill the teacher's role more affordably and with better levels of service for students.

In theory, now that cheaper and comparable courses and services are available, a savvy school district seeking to reduce its instructional and service expenditures should be willing to outsource a larger portion of its course delivery and service provision to the lowest cost provider. In such a scenario, online course use would explode and the much-talked about prediction of 50% of classes being delivered online within 10 years would be realized. However, this scenario presumes that schools are only consumers of courses, not consumers and providers. Similarly, the predictive models used in "Disrupting Class" were derived from well-functioning markets. To the contrary, public education markets more closely resemble those of nation-states and international trade. Though students could have more educational options at a wider variety of price points than ever before, the likelihood of deriving dramatic quality improvements and cost savings is low because schools and districts control the delivery of courses to students and have incentives to prevent competition for the subjects and services that they already deliver. A nascent market of course and service providers exists, but its offerings and price points are determined by institutional purchasers, not students and families.

Even if a school does provide a list of options from which a student or family can choose, this, by itself, is not sufficient to create a course-level market. Student choices must be paired with real trade-offs and sufficient purchasing information. Like with any other buying decision, "informed" would mean that information on features, performance, and price are easily

available. Further and more importantly, there must be consequences associated with a choice. These consequences must accrue to the person or family making the choice. For instance, if my son chooses an algebra course that is cheaper to provide than another algebra option, the cost savings should accrue to me and my son in some form. To create a market mechanism that delivers the efficiencies promised by educational technology, the benefits of choosing lower-cost offerings need to be passed to those choosing and those choosing should know what they are getting.

What might be the impact of intra-school choice? One of the tenets of economics is that, in a well-functioning market, the price of a good is equal to its marginal cost – the cost to produce one more unit of that good. In a better functioning market, the cost of content provision, content distribution and remote communication would be dramatically lower and should be reflected in course price. Course cohorts could be comprised from students worldwide, therefore start and stop dates can be chosen by the student. Students who finish courses more quickly consume fewer resources and could be charged less. Also, in addition to cost benefits, innovation in educational product construction and delivery would likely accelerate. Lastly, non-academic components of an educational experience, like extra-curricular activities and life experiences, could be better valued and incorporated into our definition of education.

To summarize, despite the potential of a more effective educational market, K-12 education is not a traditional market because it is free to students. Further, this is a cherished feature of American education and is not likely to change. An intra-school choice model must allow:

- A wide variety of courses, services, providers and price points from which to choose.
- The cost benefits of choice to accrue to the chooser.

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- The provision of useful information for making informed choices.
- The maintenance of a single, public payer for public education.

Is there a model that could fulfill these criteria?

One Possible Mechanism – A “Cafeteria” Plan for Subjects and Services

In un-regulated markets, disruptive technological change is embraced by new market entrants who will, eventually, out-perform old entrants by providing better prices, quality, or both to the consumer. For instance, Google harnessed the power of Internet search to sell advertising. Google’s growth dramatically reduced the revenue of other advertising outlets such as newspapers, television and radio. The iPod has replaced CD players. The cell phone is replacing land-line phones. In industry after industry, new technologies give birth to new business models and new companies. In all of these industries, consumers are free to choose the product that provides them with the best value. This mechanism allows the “creative destruction” of the marketplace.

In contrast, in education where cost saving technologies and products are integrated into school curricula, the benefits are not passed on to the student or family. More importantly, the school has little incentive to offer third-party products that are more cost-effective than its own products to students. For instance, a school may spend \$500 to enroll one of its students in an online algebra class whereas it might have cost the school \$1000 to deliver the course itself. However, since all services to the student are free, the student has no incentive to enroll in the cheaper course. The school might have an incentive, but that would mean reducing the number of algebra courses taught and teachers used at its own school. The lack of financial incentive for the student and the political disincentive for the school district are strong limiting factors in the

demand and growth of new educational models. Because public education is free, the standard fee-for-service model does not apply.

Though society's multiple and varied demands on public education require a vast array of services to be offered, any single student may demand less or more of any single service. For instance, one student may need to focus on core math, writing, and reading skills, but has no time for extra-curriculars. Another student may be able to move through academic subjects at her own pace, but would welcome the opportunity to participate in band or after-school sports. It would better suit the first student's demands if the school could provide more academic instruction at the expense of extracurricular offerings. However, the second student would be better off if less expensive academic offerings could be provided and extra-curricular activities could be bolstered.

Human resource providers have long known that each individual values different types and levels of employment benefits. For instance, one employee may value a lot of vacation time, but doesn't want a dental plan. Another employee may want a robust dental and health plan, but can live with less vacation time. Rather than provide a single plan to every employee, many companies use a "cafeteria" model to better allocate services while considering the services respective prices. In these plans, employees are given a certain number of points that can be allocated toward different benefits of their choice. For education, students or parents could be given a pre-determined number of points that could be allocated across different courses and services. A school could list courses from a variety of providers and set point values that reflect the true cost of providing each course or service. After fulfilling course distribution pre-requisites as defined by the state, additional points could be used by a student to choose extra-curricular activities or services which would also have a point value tied to cost of provision. So

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that makes the most sense for the student, tremendous efficiencies can be generated. Using some of the price points found in a quick search on the Internet, a year of accredited coursework could be provided for less than \$1,000. While a bare bones academic plan might not appeal to most students, for some the savings could be tremendous and re-invested in extra-curriculars and services. To make the cafeteria model more concrete, below is a fictitious student academic profile (See Table 1). Let's assume that the per-pupil allocation is \$8000 per student and that 25% is reserved for school overhead and other fixed costs. Let's also assume that this student is not strong in writing or math. The items in dark grey are the ones that the student is not allowed to take because past history has shown that weak students do not do well in this format. Items in light grey are the subjects that the student chose. For this particular student, after picking his educational subjects, formats and services, he has 300 points remaining.

It is important to note that this model makes no assumptions about what the school and district choose to include into overhead and what portion of points to allocate to it. It also assumes that students will be choosing from educational options offered by third parties and those offered by a school itself. Further, this model can accommodate a wide variety of educational options, subject distribution requirements and option limitations.

An intra-school choice model combines educational service cost information with the multitude of newly available educational services thereby creating a market mechanism to better judge the value of all educational offerings. Such a model should also result in a more efficient allocation of resources to students. For instance, in this model, a school does not need to offer college counseling to everyone, just those that sign up for it. Further, the school or district will have information on student course selections, service selections, student outcomes, price points and student demographic data. Over time, such data will indicate which products and services are

the best values and which ones are not. It also allows students to fund other experiences that have educational value, but may not be part of a traditional curriculum like summer camp or music lessons. Within broad parameters established by a school or district, such a model allows students to define what is educationally meaningful to the student and family.

Conclusion

Every effective new technology, from the pencil to the wheel to the Internet, increases productivity. An increase in productivity means that more of the same should be able to be accomplished at the same cost, the same should be able to be accomplished at a reduced cost, or both. Computers and the Internet have become commonplace in all walks of life. Industry after industry has evolved and been disrupted by these new technologies, except education. In education, despite tremendous investments in technology at the post-secondary and K-12 level, the price has gone up and quality seems to have gone down. Why? Because the market mechanism necessary to sift the good products from the bad *at the course and service level* barely exists in higher education and does not exist in K-12 education.

Historically, such choice has not been possible because the range of choices has been relatively limited. Now, things are different. The explosion of online education and services brings options and competition. If embraced, this competition can drive tremendous cost reductions and product improvements. Further, it could more appropriately value the multitude of varied inputs that are part of a child's education. With a more accurate system of valuation, scarce resources can be allocated more efficiently across the entire educational enterprise – academics, services, extra-curriculars, and formative experiences.

K-12 administrators and policymakers can look to post-secondary education's response to course level competition to draw lessons about how it should respond. On the one hand, the state standards prevalent across the country makes K-12 more "interoperable" than post-secondary education, therefore, with the right choice structure, cost savings and product improvements could accrue very rapidly. On the other hand, K-12 education is lacking the kind of consumer choice mechanism found in post-secondary education. Accordingly, K-12 administrators and policymakers will have to make a deliberate choice to open their borders to embrace course and service level competition or to close their borders to protect existing teaching and educational methods. Which will be chosen?

¹ Sloan Consortium, *Staying the Course, Online Education in the United States, 2008*, Sloan Consortium, November 2008.

² Anthony G. Picciano and Jeff Seaman, *K-12 Online Learning*, Babson Survey Research Group, Hunter College – CUNY, The Sloan Consortium, 2009.

³ Anthony G. Picciano and Jeff Seaman, *K-12 Online Learning*, Babson Survey Research Group, Hunter College – CUNY, The Sloan Consortium, 2009.

When surveyed, K-12 administrators indicated that the top three out of 10 reasons for offering online courses were: 1) Offering courses not otherwise available at the school, 2) Meeting the needs of specific groups of students, 3) Offering AP or college-level courses

⁴ There is a lively and ongoing debate about whether distance education is worse, equal or better than face-to-face education. I make no judgment on the educational merits of distance education. For this paper, it is sufficient that distance education has become an accepted way of delivering and receiving credit-bearing coursework.

⁵ National Center for Academic Transformation, Program in Course Redesign (PCR): Outcomes Analysis, <http://www.thencat.org/PCR/Outcomes.htm>

⁶ Jack Stripling, "Half-Learned Lessons," *Inside HigherEd*, October, 9, 2009.

⁷ Frostburg State website: <http://www.frostburg.edu/ungrad/expense/expense.htm#room>, University of Alabama website: <http://cost.ua.edu/undergraduate-09-10.html>. An out-of-state student's tuition will have fewer subsidies than an in-state student's tuition and so is a little closer to the true price of the course.

⁸ U.S. Government Accountability Office (GAO), *Transfer Students*, (Washington DC, Government Accountability Office, 2005).

⁹ Many colleges are part of co-enrollment consortia that allow financial aid to be paid from a "home" institution to a "host" institution. However, these consortia are almost always in-state and negotiated by the colleges themselves. Therefore, most do not allow dramatic price competition between host and home institutions.

¹⁰ Examples include Transparency By Design funded by the Lumina Foundation and run by the Western Council on Education and Technology (WCET), and the Voluntary System of Accountability (VSA) sponsored by the American Association of State Colleges and Universities (AASCU) and the National Association of State Universities and Land Grant Colleges (NASULGC).

¹¹ Multimedia Educational Resource for Learning and Online Teaching (MERLOT), www.merlot.org.

¹² Michigan Virtual School, Pricing Information, <http://www.mivhs.org/content.cfm?ID=125>

¹³ The University of Oklahoma Center for Distant and Independent Learning, Tuition and Fees, <http://www.ouhigh.ou.edu/charges.cfm>

¹⁴ Anthony G. Picciano and Jeff Seaman, *K-12 Online Learning*, Babson Survey Research Group, Hunter College – CUNY, The Sloan Consortium, 2009.

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¹⁵ Clayton Christensen and Michael Horne, *Disrupting Class*, McGraw-Hill, 2008.

¹⁶ Anthony G. Picciano and Jeff Seaman, *K-12 Online Learning*, Babson Survey Research Group, Hunter College – CUNY, The Sloan Consortium, 2009.