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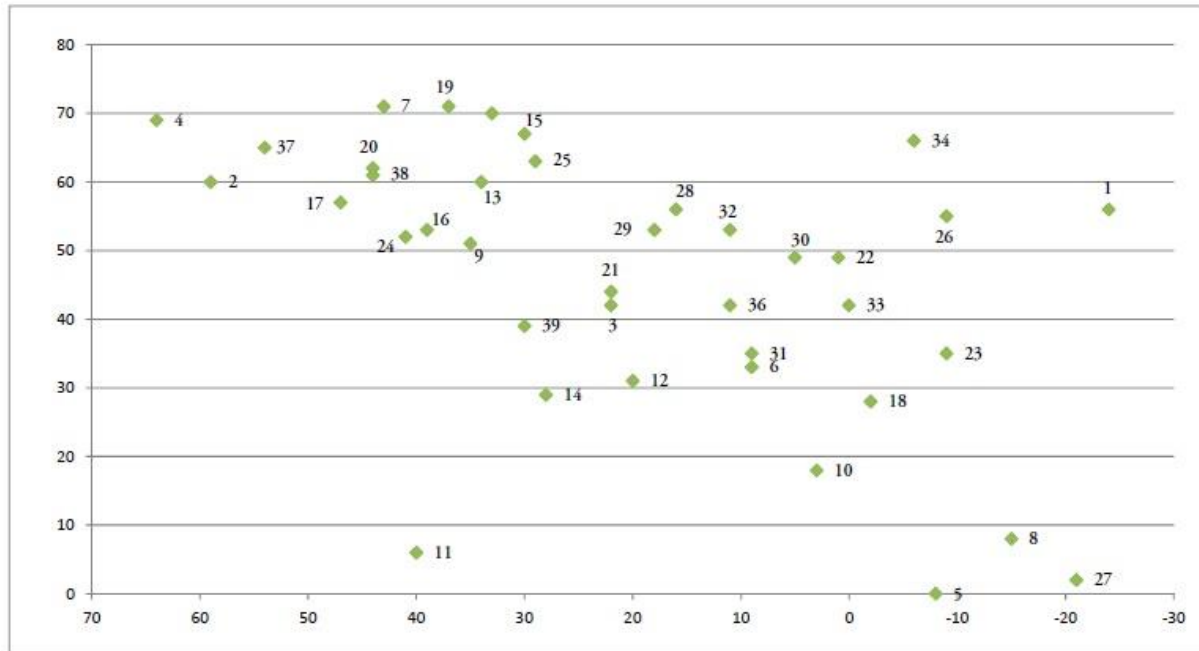
Forging the Future: How Much Affordability Can Higher Education Afford? Full Summary

This fall we have convened over 60 educational technology leaders from more than 30 states in an examination of what role technology can play in making Baccalaureate degrees significantly more affordable. Using the target price of \$10,000 suggested by Texas governor Rick Perry earlier this year, and working in teams, the experts identified the issues, trends, and uncertainties surrounding affordability today - and looked at events that could potentially alter affordability in the future.

The results of the investigation give us both tactics that are immediately available to increase affordability using our current fiscal structures and, more importantly, suggest ways we can dramatically impact affordability in the future. In the former we can reduce the cost of a degree, in the latter, the time-to-degree.

Where to start? First and foremost, we wanted to test the affordability implications of applying extensive amounts of technology in providing a Baccalaureate degree. Working from focused discussions with stakeholders, 39 factors of affordability were developed. These included questions like, "Should a new institution be created to deliver a \$10K degree in your state?"

Forging the Future participants (online leaders from more than 20 institutions across the U.S.) were asked to rate the importance and predictability of the factors and the results were plotted to identify factors that were highly important and predictable (trends) and those that were highly important but less predictable (uncertainties).



Trends impacting an Affordable Baccalaureate Degree.

The list of trends identified is not surprising, but that fact is instructive. In the face of increasing pressure for accountability and competition universities can be expected to develop more partnerships among K-12 schools, community colleges, other universities, and external providers. Online learning, a competency-based curriculum, and advancement with mastery are the primary innovation trends that are already available in meeting this desired outcome.

Interestingly experts almost universally rejected developing a new entity with an express purpose of offering an affordable degree (the virtual university option). Apparently we have been down that road already.

Sidebar: Leading Trends Impacting Affordability

- Competition between public institutions and between public and for-profit institutions would increase.
- Outcomes-based analysis and accountability would increase with alignment between K-12 and postsecondary and the impact of next generation common core assessments in K-12.
- Partnerships among K-12, community colleges and universities are critical to degree affordability and will become more common. Partnerships with educational management organizations (EMOs) will increase in importance as well.
- Online learning options, driven by increasing needs to work, learn and study where ever students are and whenever they want will continue to increase. Shifting to digital content and establishing robust online student support services are critical to success.

- Implementation of competency-based teaching and learning models are critical to affordability and the emphasis will continue to grow

Uncertainties in Affordability Drivers

Of course the economic state of education proved a key uncertainty (and also primary driver for considering change). The impact of policymakers, already active in restructuring the K-12 sector, was also hard to predict but acknowledged as potentially critical to how, and how fast, affordability would be considered. Rapidly emerging and evolving technologies, while widely expected to increase affordability, were also very hard to predict or estimate.

But the two most challenging factors our experts described were the very wide disparity between the speed at which technology was changing the core operational models in sectors like media and music and the glacial (if that) pace of cultural evolution at universities and whether faculty would support or resist the kinds of changes that were headed their way.

Sidebar: Uncertainties in Increasing Academic Affordability

- Economic outlook. Challenges of the "new normal" budgeting where current reductions will continue and in some cases worsen.
- Pressure from the public and policymakers are critical driving factors but the intensity of that pressure is not certain.
- The cost of purchasing (and developing) the technology needed to support or drive change is expected to be significant, but nobody knows for sure which technologies are needed nor what they will truly cost.
- The differential between the high speed at which technology is driving change across the education sector and the slow speed of cultural change at academic institutions give rise to significant concerns.
- Faculty attitudes, participation, and support are among the most critical factors in affordability. The role of faculty will increase over the next three years, but it is highly uncertain whether they will support or resist changes.

Scenario-based Strategies

Working from the trends and uncertainties, and the issues they raised, potential visions of events and their implications that might occur over the next 36 months were developed. Potential scenarios ranged from extending/improving current models to ones that saw robust consortial offerings from public institutions to deep partnerships with business and for-profits, to development of enterprise scale gaming engines that would drive new learning model to scenarios that responded to even more dramatic economic downturns. These scenarios are interesting in their own right - but in aggregate they are deeply informative.

Tactics for Today

Because affordability is an issue with significant current implications for institutions, workshop participants identified several tactics that would be effective in reducing costs in the short term:

- earning college credit in high school
- greater alignment between K-12 and higher education
- Dual credit between K-12 and community colleges
- 2+2 programs between community colleges and universities
- and credit for prior learning
- Conversion from textbooks to digital content

Deep Concerns for the Future

In the scenario development phase of the workshop, aggressive application of these tactics did show potential for dramatic cost reductions - especially as ways to reduce the cost of instruction (faculty salaries).

The experts observed that, once you accept the premise of offering a four-year degree at a target cost of \$10,000, you are stuck with a simple and depressing equation. No matter how clever or complicated the calculus or how you play the fiscal shell game of shifting costs among the campus, student, and state, the biggest reduction would need to be in costs of faculty. While technology could reduce costs modestly (such as through transition to digital OER content), reducing the cost of instruction is where the burden would fall.

This observation was captured in the inevitable conclusion, "If you want a cheaper degree...you need to get cheaper faculty."

Towards a Better Solution (and Return on Investment)

As can be imagined, this was neither a palatable nor acceptable solution to the experts. And this is where the thinking got interesting. The affordability constraints academia deals with are epitomized in the "iron triangle" of cost, quality, and time. Adjusting one impacts the others. This has been immutable.

For example, there is a direct, causal relationship between cost and quality of instruction. Increasing student to faculty ratios to lower per student instructional costs means less quality. Reducing the ratio, such as in graduate seminars, increases quality - and cost. Immutable...almost.

Reexamining the strictures of the triangle, our experts chose to rethink not *quality* (as proxy for the cost of faculty) but *time* as the nexus for innovation. We need to change our concept of a baccalaureate degree from a credential awarded after 120 credit hours of instruction to a credential earned after 120 credits of demonstrated competencies. Key to this capability is developing the pedagogical infrastructure of competencies and

correlated assessments that enable validation of learning and advancement upon mastery.

Removing our traditional calculus of credit *hours* and replacing it with (for arguments sake) 120 competencies a student learns and earns at once increases accountability and frees learning from the 19th century, 15-week model of instruction.

Of course, technology will be an instrumental part of a competency-based model. Research shows technology enables students to learn at the same level of quality - in less time. When students can complete coursework in perhaps half the time - now becomes conceivable to leverage technology to reduce the time to degree.

Actually, there is a much larger, more pivotal, role for technology to play. But we need a new, more primary, infrastructure in place first.

Wanted: A Pedagogical Infrastructure

Nicholas Carr, in his book "The Big Switch: Rewiring the World, from Edison to Google" Switch, describes the early days of the industrial revolution when electrical power was the new innovation. At that time every company generated its own power, with a unique voltage suited to its needs or proprietary power generating equipment (I shouldn't need to belabor the parallels any more than this). The ability to establish a power grid harnessing the generation power of all these companies together came with a converter that was able to align the disparate voltages into power streams compatible, and transferrable, with each other.

In higher educational we lack this infrastructure of clear competencies that enable us to assemble, manage, assess and transfer student learning between faculty and between institutions. Europe recognized this and created the Bologna Process. In the United States project like LEAP from AAC&U and the Tuning USA initiative focus on harmonizing discipline-based competencies, instead of bolting technology on to courses.

And this is where technology really is needed. With each student progressing along an individual path of learning and advancing at a unique pace, technologists will need to develop the platforms that aggregate learner progress data and, for a campus of 20,000 students instead of having one academic calendar - there will be 20,000!

The promise of these developments is that universities could offer a four-year degree in (wait for it...) four years. Even three. And this dramatically changes the calculus from "we need cheaper faculty" to "we need to change the calendar."

Strategies for Change

In summary review of this work, the most self-evident conclusion is that, if an institution is preparing to invest in a transformative change initiative, the best focus may not be to

fund more faculty development of technology infused courses. The only "bolts on" technology (and its accompanying costs) to a model that is already affordability-challenged. The opportunity for changing the time factor in the baccalaureate process is real. It was revealed by the work of 60 experts this fall is when an institution focuses on just four key actions they will provide the pedagogical infrastructure for true transformation.

These four actions are:

1. Establish competency-based instruction across the institution.
2. Develop assessments and robust assessment engines correlated to those competencies.
3. Create the technological and analytical platforms that support independent, personalized learning paths for all students
4. Implement the ability to advance individually upon mastery instead of by course or credit hour.

Observations

So first the good news. Technology can help address affordability in the ways we do things now. Dual-credit, early college, 2+2 programs between community colleges and universities all are proven ways to reduce cost while maintaining quality. More importantly, the real potential lies in doing things differently than now...for most institutions. There are already successful examples of competency-based, advancement upon mastery institutions (Western Governors University comes to mind).

And the bad news? Technology does not really care if we succeed or not. That is the challenge. Can our culture move at the speed of technology? Is there a pace at which we can survive the revolution? The scenarios developed by the experts of the Forging the Future workshop tell us yes. Higher education is resilient, resourceful and can actually be pretty innovative.

The Forging the Future workshop was developed and directed by Myk Garn, Southern Regional Education Board; Hae Okimoto, University of Hawai'i System; Rob Robinson, University of Texas - San Antonio.