

# AfterNext: Decoding the Future of Higher Education in 2030

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**Abstract.** In the world of academic innovation there are many experts; experienced entrepreneurs who know what needs to be done next to improve faculty and student success in the rapidly changing environment of academe. More bandwidth, more funding, more professional development, more attention to quality and to test security; all very important — and all very unhelpful when one is tasked with visioning not what should come next — but what will come AFTER next.

Higher education is in the midst of turbulent change. An academic culture steeped in reflection and teaching is being disrupted and reconstructed into a globally connected ecosystem of networked, 24X7X365 co-creators and co-learners. Roles and paradigms held dear and true are challenged. The rate of change, the unpredictable, unrelenting emergence of new, disruptive models makes planning and preparing for the future even more conflicted, confusing – and critical.

This was the challenge facing the University System of Georgia in 2013. A recently completed report on distance learning needs had surfaced many critical needs — but few visionary directions — for the System to consider or plan from. This need was clear to Chancellor “Hank” Huckaby in November of 2013 when he addressed a convening of the System’s leading educational entrepreneurs at a symposium entitled “MOOCs and Beyond.” Challenging the leaders to examine and explore the future fearlessly, he acknowledged, “...we don’t know what lies beyond...and that’s important.” This observation framed and guided the System initiative, and Georgia’s intent, to “Invent the Beyond.”

## 1 What Lies Beyond?

The University System of Georgia, in partnership with the Technical College System of Georgia, intends to increase the percentage of Georgians holding a postsecondary certificates or degrees from just over 40 % in 2013 to 60 % by 2020 (an additional 250,000 graduates). Ensuring that the pace and scale of the transformation needed is within the tolerance and ability of the stakeholders to grasp, embrace or endure – is critical to the future of Georgia.

To continue its leadership role the System must identify future trends and opportunities that both inform its current plans and catalyze the development of new ones. Over the next fifteen years higher education will move from a culture of an 18<sup>th</sup> Century memory-based, industrial teaching model – to a 21<sup>st</sup> Century social model of networked learning and co-creation.

To this end the System created, in September 2014, the New Learning Models 2030 Taskforce. With a membership of sixty-five, the Taskforce brought together a broad, representative swath of USG stakeholders. From presidents, provosts, faculty, students and staff every one of the System's thirty institutions was represented by at least one stakeholder. Again, an assembly of the System's 'best and brightest' were asked to envision and chart a future path for higher education in Georgia. This is a difficult challenge.

## **2 Co-Authoring the Future of Education**

The charge to the NLM 2030 Taskforce was to catalyze and build a more informed framework of future possibilities and strategic options. Scenario planning begins with a focus: an issue or idea that is at the heart of the matter. The focus is important because it helps to narrow down the possible futures to those that will help lead us to better decisions. For its activities, the NLM 2030 Taskforce focused on the future of higher education in 2030 setting out to determine:

- What factors will be critical to the success of the University System and its stakeholders over the next 15 years?
- What new learning practices and business models will best guide and support learners, faculty and institutions in and to 2030?

Because predicting the future with any certainty is wholly unsatisfactory, the NLM 2030 Taskforce chose a scenario-based planning process—not to predict the future but—to visualize a range of possible futures and reflect on how prepared the USG was for them. Scenario planning helps to make the driving forces at play in a market sector visible and, by developing them into scenarios with multiple possibilities, planners can anticipate a wider range of challenges, opportunities and outcomes.

Scenario-based planning increases the ability of stakeholders to envision future possibilities and challenges volatile and unpredictable markets that are beyond the immediate, predictable horizon. These explorations build a shared approach and conceptualization of future needs and opportunities for the USG ensuring, encouraging and supporting more effective and cohesive transformations. The resulting frameworks are authentic, internally valid, communicating the challenges and opportunities facing the System and the critical success factors and strategic options the System might employ in planning for the future.

## **3 Inventing the Beyond: Crowdsourcing the Future**

Because 'new models' means new methods of learning – the Taskforce used online tools and models to conduct and complete a scenario-based planning project. While NLM 2030 Taskforce comprised the core stakeholder group – access and participation in the planning activity will be expanded to the entire System and to academic systems, institutions and stakeholders across the United States through the "Invent the Beyond" and "Explore the Beyond" massive, online, open-stakeholder,

collaborations (MOOCs) that will overlay the activities, experiences and deliberations of the Taskforce.

Utilization of the MOOC format (a fall 2014 and spring 2015 courses were offered via the Brightspace Open Courses) enabled the Taskforce to work collaboratively, communicate regularly without the need to convene as frequently as they might have and to dramatically increase the number (over 500 individuals participated in the ITB and 194 in the ETB MOOCs) and distribution of stakeholders contributing to and informing the scenario building and planning processes (see Fig. 1).

Stakeholder Community	New Learning Models 2030 Taskforce (n=65)	Invent/Explore the Beyond MOOCs (n=500+)
HEd Administrators	87 %	23 %
Faculty	8 %	42 %
Students	5 %	23 %
Other		12 %

**Fig. 1.** Comparison of stakeholder participant percentage between NLM 2030 Taskforce and Invent/Explore the beyond MOOCs

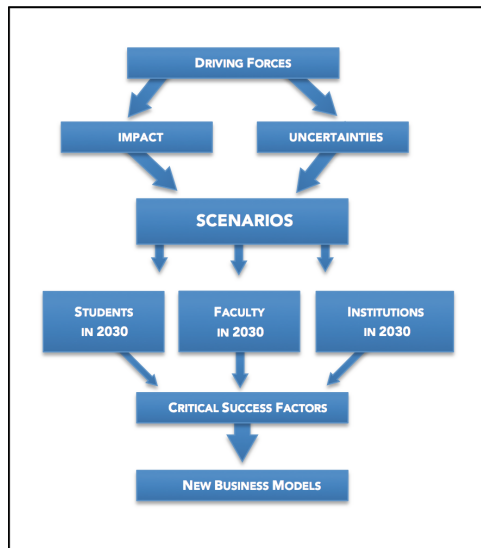
The “Invent/Explore the Beyond” online collaborations used crowdsourcing to develop future scenarios and to explore and describe the factors critical to the success of student, faculty and postsecondary institutions in 2030. During fall 2014, through three interactive and discursive sessions, participants identified and quantified the driving forces and critical uncertainties facing higher education over the next fifteen years, they used those critical uncertainties to establish candidate matrices for scenario development, wrote ‘headlines for the future,’ selected the final matrix, and then developed four robust scenarios for the future of learning in 2030.

During the spring 2015 ‘Explore the Beyond’ MOOC the Taskforce and MOOC participants identified the critical success factors for student, faculty and institutional stakeholders; evaluated the pressure to change current instructional services institutions provide to students and teaching activities that faculty perform are undergoing; determined the implications that new learning models would put these institutional functions under — and how they would need to change — by 2030. The final, capstone, session for both MOOCs was a recap and consolidation of the learnings and implications of the complete process to Invent and Explore the Beyond resulting in a set of critical success factors and a framework for informing institutions and individuals as they build their future plans.

## 4 Driving Change

The USG scenario-based planning process (Fig. 2) began by identifying and prioritizing the primary drivers of change (economic, technological/instructional, social/cultural and policy/political) as perceived by three primary stakeholder groups:

students, faculty and institutions. Those issues with impact on the future whose trajectory is relatively certain e.g. rising operational costs become categorized as ‘trends’ and help undergird the development of the scenarios. Drivers that were highly uncertain — where the degree and type of impact is unpredictable e.g. legislative mandates — become the variables from which the differing narratives of the USG scenarios would be crafted.



**Fig. 2.** The USG scenario-based planning process, adapted from Schoemaker, 1995

The Taskforce rated over 70 change drivers in terms of the potential impact each driver might have on the future and the degree of certainty or uncertainty of that impact on the System and its stakeholders. The resulting 30 most impactful and uncertain drivers were then presented to the ‘Invent the Beyond’ MOOC participants for their input. Thus over 500 individuals participated in determining the most impactful and uncertain drivers that were then combined and weighted using both implicit and tacit knowledge to combine them into what resulted in four general clusters of “key driving factors.” The four clusters identified were:

- (A) Sources of learning (open/co-created or closed/within the academy) vs. pace of change (rapid or managed/slow)
- (B) Pace of change (rapid or managed/slow) vs. two complementary axes—national focus on education (strategic or self-reliant) and US competitive position (US leading or US waning)
- (C) Sources of learning (open/co-created or closed/within the academy) vs three correlated axes—economic policy making (redistributive or pro-growth); cost of education (out of control or accessible); and the necessity of education (luxury or a necessary good).

- (D) Sources of learning (open/co-created or closed/within the academy) vs funding sources (disciplined or opaque) and national focus on education (strategic or self-reliant)

The creation of the matrix is the most intellectually challenging analysis that takes place during a scenario-planning project. This work identifies and converges the top two key uncertainties into a matrix with a strong set of narrative characteristics. It is important that these matrices are plausible—that the stories that come out of this overlay are believable (without using magic or breaking the laws of physics).

By identifying the most impactful, uncertain drivers of the future from these four potential driver sets, determining the polarities of their trajectory e.g. a faster pace of change versus a slower pace of change, and then creating a matrix based on the two most informative drivers, the Taskforce constructed four different possible views of the future for higher education between 2015 and 2030. In this case, the NLM process identified the two key uncertainties (Fig. 3) as, “Sources of Learning,” with polls labeled “Closed/Academy” and “Open/Open Source/Co-Created.”

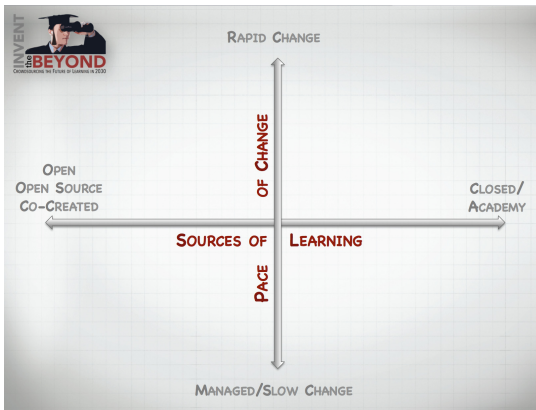


Fig. 3. Final candidate set presented as a matrix

## 5 From Critical Uncertainties to Scenarios

Moving forward, each quadrant of the matrix was filled out with its own story. The *divergence of poles* sets up the reasonable expectation that when the axes are crossed, the resulting quadrants will offer divergent narrative canvases. Using the critical uncertainties that form our matrix as reference points, the next step is to fill out the story of the future: how did it happen in this particular way? What had to happen first in order for us to get to this future? What else is going on in this future given the critical uncertainties?

During the narrative development process the “other” uncertainties—the 29 that did not end up in the matrix—were used to provide a much deeper sense of what the future would be like in a specific scenario. For example, in a future where the pace of change is rapid and most learning is from open, non-institutional sources, what would the public funding model be for higher education? What would the state of the national economy be? Answering these questions from the context of our critical uncertainties uncovers nuances in the futures that help to make them both distinct from other scenarios and sufficiently rich to serve as valuable planning tools.

Finally, each scenario (Fig. 4) was given a name to be used as a shorthand for what the conditions of that future are. The names should evoke the overall feel of the scenario and help someone who may not be familiar with the process or the steps taken to arrive at to this future understand the underlying pressures and conditions that define the scenario. For example, the “Find Your Own Path” scenario connotes learners (and faculty) who must chart their own course through an unruly world.

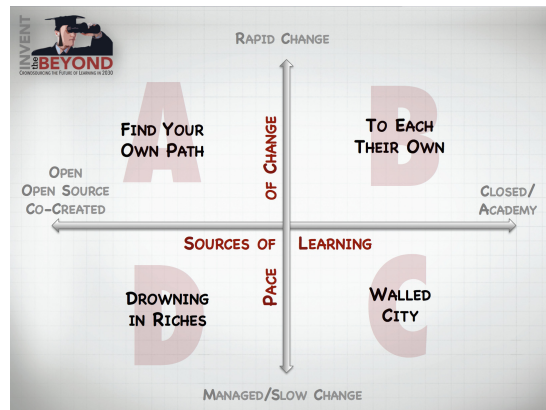


Fig. 4. Final Invent the Beyond matrix

## 6 Exploring the Scenarios

The four USG 2030 scenarios, co-developed by the NLM 2030 Taskforce and the Invent the Beyond MOOC participants provide four very different future narratives that higher education stakeholders can use to populate and plan for possible futures. By ‘populating’ each of these scenarios with avatars for the three stakeholder groups — the Taskforce would be able to identify the critical success factors necessary for each of these communities to thrive and succeed in 2030 — and the implications for new learning and new business models the System will need to invent and implement to support its students, faculty and institutions.

Presented next are tables showing the uncertainties driving each scenario (sorted into four change driver categories of social, technological, economic and political) and representative cameo content from each scenario narrative.

Find Your Own Path	
Rapid Change — Open Source/Co-Created	
Social	Technological
<ul style="list-style-type: none"><li>• US-Centric Global perspective</li><li>• Education is inexpensive and accessible</li><li>• All music is world music</li><li>• Just-in-time skill learning augments life-long learning models (higher ed buys-in)</li><li>• Well-respected content = credibility</li><li>• Highly transparent social structure and behaviors</li></ul>	<ul style="list-style-type: none"><li>• Attention management systems help people organize information networks to meet needs</li><li>• Technology displacement of labor</li><li>• There are games for everything</li><li>• Online portfolio systems replace transcripts and resumes/CVs</li><li>• Rapid obsolesce and the need to relearn models and acquire new skills</li><li>• Internet is free and fast</li></ul>
Economic	Political
<ul style="list-style-type: none"><li>• Vibrant world economy</li><li>• Fewer trade barriers</li><li>• International brands, many emerging from new markets</li><li>• Situational results drive perceptions of value</li><li>• Wide ranging employment issues arise as more and more labor is replaced by automation</li></ul>	<ul style="list-style-type: none"><li>• US-government actively reinventing itself</li><li>• Movement toward more direct democracy</li><li>• Weak public sector</li><li>• Pragmatic decision making</li><li>• Pressure for new definitions of “value” and “worth” become political issues</li></ul>

In the world of *Find Your Own Path*, change is the only constant, institutional prestige is devalued, the “wisdom of crowds” is interpreted through algorithms and predominates as the truth, data is destiny. In this world, analytics, algorithms and machine learning have triumphed. Apps now know how to make sense of the world well enough that most people don’t care if a recommendation comes from a person or a program.

Information is everywhere, published by people and by programs. The world seems to seethe with change, and it is fast-paced – many people feel that the pace creates constant disruptions, if not on the grand scale, at least on the personal scale. There seems to always be something new to learn, something new to adapt to, something – from devices to skills – that has become obsolete.

In higher education, institutional prestige has been devalued. Value now resides in the ability to meet the needs of the individual, fueled by the collective “wisdom” of the crowd. The power of a degree is diminished as workplaces shift to micro-degrees and endorsements. The cost of “learning” plummets.

Leading-edge educators are working with learning apps to embed their own approach to learning and critical thinking within the recommendation and analysis

engines. Educators who do this offer subscriptions to their “personal takes” on the world, which differentiates them from more generic, open-source analytics.

To Each Their Own Rapid Change — Closed/Academy	
Social	Technological
<ul style="list-style-type: none"> <li>• Educators viewed as entrepreneurs</li> <li>• Education is expensive, but work programs make it reachable</li> <li>• Strong East Coast/West Coast bias</li> <li>• End of Inter-league sports leads to East/West Championship battles</li> <li>• Technology-driven isolation from standards fragmentation</li> </ul>	<ul style="list-style-type: none"> <li>• Rapid innovation and new technologies adopted within</li> <li>• Technologically savvy educational institutions “colonize” less tech savvy schools</li> <li>• Strong commercial space programs led by research programs</li> </ul>
Economic	Political
<ul style="list-style-type: none"> <li>• Higher education establishes strong position on patents, proprietary practices and intellectual property, often acting more like businesses than schools</li> <li>• Credentials are essential passports to opportunity</li> <li>• Only the biggest of businesses can keep up with pace of change</li> <li>• Poor management practices lead to greater organizational dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Business and education carve up political clout leading to new battles and new gridlock</li> <li>• Courts and regulators fail to manage increasingly proprietary “standards”</li> </ul>

The landscape of ‘To Each Their Own’ is one where higher education institutions have pushed back and closed ranks win the face of the unrelenting pace of change. Higher education now competes directly with business, using its size, scope and position to block out external partners from trespassing on its patents, proprietary practices, and intellectual property. Educators, researchers in particular, who are now seen as intrapreneurs, take models of academic-economic cooperation to new heights.

Protecting the investment on research and development does not imply a slow transfer of technology, but rather a new competitive model where higher educational institutions share less among one another as they seek to convert their intellectual property into economic value.

The pace of change is fierce. Organizations that can’t keep up, including many universities and colleges, get subsumed into larger structures. Embrace change or be eaten, is a common mantra. However, rapid mergers and acquisitions have led to increasingly dysfunctional management practices that often fail to find the right balance in the chaotic environment. Multiple cultures and multiple infrastructures slam into each other at light speed, but management has little time to weave a new, cohesive culture. When it comes to teaching nothing is sacred, because if it isn’t relevant, then it doesn’t count, and that means anything old that hasn’t found a way to prove relevance



has been swept away. Credentials and affiliations are the essential passports to opportunity. The economic gap between those with credentials and those without widens.

Walled City Slow Change — Closed/Academy	
Social	Technological
<ul style="list-style-type: none"><li>• People feel over managed and underachieved</li><li>• Resurgence in book publishing</li><li>• Education Institutions touted as the saviors for a world of underachievement</li><li>• Traditional journalism returns (but not distributed in traditional ways)</li><li>• Highly supplemented higher ed tuition</li></ul>	<ul style="list-style-type: none"><li>• Technology feels stale</li><li>• Because technology isn't changing as fast, mastery of all forms of technology are at an all time high</li><li>• Automation focuses on tracking negative political movements and other insurgencies</li></ul>
Economic	Political
<ul style="list-style-type: none"><li>• Stagnant global economy</li><li>• Business is seeing long-term bets pay-off, albeit at subpar performance rates</li><li>• Significant reductions in election costs as people have more time to actually engage in issues (advertising declines)</li></ul>	<ul style="list-style-type: none"><li>• Tight political control on change facilitated by industrial and social engineering</li><li>• Reputation of government generally improves</li><li>• Middle East continues to devolve as US pulls out to focus on domestic policy</li><li>• Ideas about what "facts" should be versus actual facts predominate government decision making</li></ul>

In the ‘Walled City,’ stakeholders find comfort in a more ‘livable’ pace of change – but with anxiety over an environment somehow out of sync. Slow change means a slower economy with fewer opportunities for the ambitious. Tight restrictions and control on social, economic, and technological advances reinforce and extend social, cultural and political ossification. That said, the slow pace of change also means government promises get fulfilled before they get derailed or obsoleted by new technology. The Academy is seen as the arbiter of knowledge and skills, and institutions guard this power closely. Strategic alliances between institutions and private industries consolidate this power and encourage targeted innovation toward specific objectives. Educational institutions have found that for many classes, applying the industrial method is working well. They create cookie-cutter classes with clear, measureable outcomes and franchise them out.

The cost of education is high, but it has stabilized as the external sale of courses and the monetization of staff lead to new sources of income. With the costs of adopting to rapid change no longer a constant business cost, institutions and individuals can make other strategic investments, some to bolster their status (either as gatekeepers for institutions, or as individuals), others to extend their mission or interests.

Drowning in Riches Slow Change — Open Source/Co-Created	
Social	Technological
<ul style="list-style-type: none"> <li>• Educational systems have lost control of their marketplace</li> <li>• People cobble together learning from a variety of sources</li> <li>• “Being Social” replaces “Being on Social Media”</li> <li>• Personal and local newsletters, blogs and other online media proliferate</li> </ul>	<ul style="list-style-type: none"> <li>• Technology adoption in academia is very slow</li> <li>• High distrust of automated solutions and “Big Data”</li> <li>• Bring-Your-Own-Device common</li> <li>• Ease of publishing and consumption</li> <li>• Technology is powerful but isolated as coordination and collaboration wanes</li> <li>• Social media falters</li> </ul>
Economic	Political
<ul style="list-style-type: none"> <li>• Lack of resources to transform information into value</li> <li>• “Information” labor jobs offer secure employment and upward mobility</li> <li>• Poor quality information increases accidents and leads to major industrial disasters</li> </ul>	<ul style="list-style-type: none"> <li>• Chaotic political system as new political movement emerge but most don’t get broad traction</li> <li>• Business is equally disjointed in its leadership position as slow growth has left a vacuum of industrial leadership</li> <li>• Elected leaders have plenty of sources from which to choose their “facts”</li> </ul>

The ‘Drowning in Riches’ scenario delivers what today’s stakeholders think they want; a controlled pace of change. There was a time when people trusted computers for everything, and they started to automate all manner of human endeavor from creating shopping lists to driving cars. The Great Attack stopped all of that. Over a period of a just few weeks hackers raided many major financial institutions. Billions of dollars simply disappeared.

Public funding for education is on the wane, along with tax dollars being taken in by the federal, state and local governments. The generally stagnant economy makes obtaining funds from other sources difficult. Some companies, however, are sitting on piles of pre-Great Attack cash hordes and offer funding to institutions that can offer specific research assistance or a particular hedge.

Now students can’t turn to any single source to complete their education. Institutions remain stuck in a model that no longer meets the needs of their students or the workplace. They turn inward, reflecting on their lost stature, which further deteriorates their motivation for change.

## 7 What Success Looks Like in 2030

So, given these scenarios, what does success look like for higher education stakeholders such as students, faculty and institutions in 2030? When the NLM 2030 Taskforce was asked to populate each scenario and consider the critical success factors each of the stakeholder groups would need to survive and thrive in these very different futures they developed over 600 such factors. The analysis of these, by stakeholder group and by scenario resulted in a number of factors were common across multiple

scenarios — making them ‘super success’ factors — and especially crucial to stakeholder success in the future. These super success factors were:

For higher education students in 2030 the critical success factors are the ability to:

1. Aware of their needs and able to pick the ‘right’ institution with resources, reputation and clout to help them achieve their educational and career goals.
2. Have or find access to alternative ways to fund educational programs & training
3. Predict what knowledge they will need and accumulate credentials and find quality mentors for support
4. Be independent, resilient, adaptive, versatile, prepared, self-directed and be prepared to confront shock, cynicism, and anxiety to prevent paralysis in acquiring an education
5. Have business savvy and the ability to market themselves
6. Continue their education to keep up with the pace of change

For higher education faculty in 2030 the critical success factors are the ability to:

1. Be a highly-specialized, recognized expert who is articulate and can communicate the value of their course & its outcomes to prospective students
2. Align themselves with institutional direction/efforts; focusing on teaching outcomes and the use of multiple delivery methods
3. Develop their ‘brand’ and market themselves as free agents
4. Give up autonomy and academic freedom for job security
5. Be content with an unfulfilling job

For the implications of new learning and business models for higher education institutions in 2030 the critical success factors are the ability to:

1. Reinvent their raison d’être and clarify the mission likely by finding a niche and attracting buyers by demonstrating and marketing differentiation Have a highly visible valuation with the ability to articulate and communicate the value-added of working or learning through the institution and quality this may include looking for partners/acquisitions among other institutions.
2. Some institutions will get “back to basics” - deconstructing and reconstructing learning models in relevance to past (successful)
3. Other institutions will attempt to push back traditional forms of college, Aggressively focused on outcomes not process; emphasize flexibility quickly reacting to changing requirements where the learning is infinitely varied and free-form with no model but with clear learning outcomes and embracing new forms of measuring learning (e.g. self-directed learning, CBE, credentialing/badges, portfolios, experiential learning, service learning, internships, etc.)

So, what do these factors indicate about the future? Three observations seem evident. One, the degree of change expected across the three stakeholders varies. While the most dramatic (some would say tsunamic) changes are predicted for institutions, and faculty will have hard choices (balanced with a strong upside for an entrepreneurial few), students will see somewhat less disruption. Two, each stakeholder community

will be expected to take greater individual responsibility for engaging and succeeding at their respective endeavors. Three, there will be an increased granularity, and atomization, of content, careers and credentials.

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