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What Will Change?

The findings from "Looking Backward," "Looking Forward," and "Looking Sideways" point to five profound and jarring new realities, none of higher education's making, that will shape its future.

 Institutional control of higher education will decrease, and the power of higher education consumers will increase.

When we speak of higher education today, we think of colleges and universities. Why wouldn't we? Everything else about higher education is ephemeral—knowledge evolves; faculty, students, and programs change. But colleges and universities are a constant. They are the institutions that create, sustain, and disseminate knowledge. They are the engine that drives the higher learning enterprise.

We tend to think about most industries, for-profit and non-profit, in terms of the institutions that comprise them—courts, hospitals, banks, schools, and the like. The first American cor-

poration was established in 1790. The concept spread swiftly, and by 1860, there were more than twenty-five thousand in the United States (Sylla & Wright, 2012). Organizations became the centerpiece of economic life and thinking during the Industrial Revolution.

"Looking Sideways" is an account of three knowledge industries, which during the industrial era, were each dominated by a single institution—music labels, film studios, and newspapers. Over time, the specific labels, studios, and newspapers leading the industry changed. So did the regulations that governed them, the competition they faced, and the new technologies that emerged around them. But the key actor did not. It was always the same organization or institution—the recording label, the studio, or the newspaper. As with higher education today, those institutions defined the industry both in terms of its business model and the way we thought about the industry—Motown, Disney, and the *New York Times*.

But the advent of the global, digital, knowledge economy changed that. It multiplied the number of content producers and disseminators and gave consumers choice over the *what*, *where*, *when*, and *how* of the content they consumed. The historically dominant institution diminished in importance and control of the industry.

Here's the point. In the music, film, and newspaper industries, the industrial era was about institutions, the producers, and production of content. In contrast, the knowledge age focuses on the users of that content—the consumers—and consumption. The consumer became the dominant force in the industry, and institutional control declined. That same transition can be expected in higher education.

2. With near universal access to digital devices and the internet, students will seek from higher education the

same things they are getting from the music, movie, and newspaper industries.

As "Looking Backward" concluded, in all three industries, consumers chose around-the-clock over fixed-time access and anywhere mobile access over fixed locations. They selected consumer- rather than producer-determined content; individualized over uniform, or one-size-fits-all, content; and unbundled rather than bundled content, such as a track over an album or a story over a whole newspaper. They picked low cost over high with the exception of luxury goods. The same will likely be demanded of higher education.

College students favor these changes. In their research, Levine and Dean (2012) found in contrast to traditional higher education, digital natives preferred anytime, anyplace access to education rather than set locations and times, education driven by the consumer rather than the institution, and digital over analog media.

In addition, Levine and Dean (2012) found older adults, largely working women, attending college part time, sought affordable, unbundled, or stripped-down versions of college. When these students were asked what they wanted from college, they asked for convenience, service, quality, low cost, and to be charged for only the services and activities they used. They did not want to pay for facilities they didn't use, events they didn't attend, or electives they didn't take. They wanted to buy the equivalent of a track rather than an album or a particular article rather than the whole newspaper.

These preferences make sense in the context of an ongoing retreat by undergraduates from campus life, which fuels practices such as fixed locations and times for higher education. Levine and Dean (2012) reported that the proportion of students

living in college housing had dropped continuously since at least 1969. Indeed, only 16 percent of on campus prior to the pandemic (Kelchen, 2018). Less than a third of college students attended on-campus social events (33%), used the campus fitness center (33%), attended athletic events (25%), went to meetings of academic, student, or professional clubs (21%), or attended campus lectures, debates, or other academic events (19%) at least once a month. More than a third never did any of these things. This was true of a majority of students at community colleges where a high of 80 percent never attended academic or professional meetings and a low of 57 percent never attended social events (Levine & Dean, 2012). In the nationwide 2020 Community College Survey of Student Engagement, only 28 percent of respondents identified student organizations as being "very" important. Among community college students ages 25 or older, fewer than 20 percent ever used student organizations (Center for Community College

Student Engagement, 2020).

Levine and Dean concluded that "campus life is the domain of traditionally aged, full-time students attending four-year colleges and working half time or less" (2012, 54), which as noted is a shrinking proportion of the collegiate population. They offered two caveats. Participation shot up for students working ten hours or less a week, and even among traditional students, most of the events they attended were not college sponsored.

Here is the point. Students' lives are increasingly filled by competing pressures and demands beyond college; more, for example, are working and they are working longer hours. Levine and Dean found a growing tendency, particularly among nontraditional students, to come to college only to attend classes, commuting in just before the start of class and commuting out immediately after. This encourages students to place a premium on convenience: anytime, anyplace accessibility; personalized

education that fits their circumstances; and unbundling, only purchasing what they need or want to buy at affordable prices.

 New content producers and distributors will enter the higher education marketplace, driving up institutional competition and consumer choice and driving down prices.

In the popular imagination, college is an idyllic campus where students go for four years to study and play after high school, attending full time, and living in dormitories. Most people, including many in higher education, are shocked to learn that fewer than a fifth of all college students are full-time, residential, and aged 18 to 22.

What does not readily come to mind when one thinks about college is the proliferation of new postsecondary institutions, organizations, and programs discussed in the introduction. In contrast to the imagined college, these initiatives are harbingers and trailblazers of the future of higher education in America. They challenge the existing model and expand consumer choice. Coursera offers an instructive example.

Coursera is an online learning platform company, a pioneer in MOOCs that was launched in 2012, and by 2019 was valued at something north of a billion dollars. Today, it offers seventy-eight million users more than four thousand courses and specialty studies, ranging across the fields offered by traditional universities from data science, engineering, and business to humanities, social sciences, and health.

But Coursera's view of education is more pragmatic and career oriented than traditional higher education, which is what both traditional and nontraditional students want from college. While offering a panoply of degree programs and courses in the liberal arts, such as music, classics, history, and economics, the website announces that in a 2019 survey, 87 percent of

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those who enrolled to develop professionally received a salary increase, a promotion, or the capacity to begin a new career.

Coursera also differs from traditional higher education in terms of who provides its content, which is an eye-popping list of more than two hundred of the world's leading universities and businesses. Its higher education partners are a veritable who's who of colleges and universities from around the world, including California Institute of Technology, Columbia, Duke, École Polytechnique, Hebrew University, Johns Hopkins, Moscow State University, Peking University, Princeton, University of California, University of Chicago, University of Michigan, University of North Carolina, and Yale, to name just a very few.

While an impressive roster, what is unique about Coursera is that it offers classes, specializations, and certificates from businesses and nonprofits outside higher education. The businesses are leaders in building and supporting the global, digital, knowledge economy and their practices and products are at the cutting edge in areas such as technology (e.g., Cisco, Google, IBM, Intel, and Microsoft), finance and management (e.g., Axa, Axis Bank, Fundacao Lemann, Goldman Sachs, and PWC), and merchandise and sales (Alibaba, Amazon, Danone, L'Oréal, and Procter & Gamble). The nonprofits, which are of equal renown, include the American Museum of Natural History, Exploratorium, Museum of Modern Art, National Geographic, World Bank, Yad Vashem, and many more.

To understand the potential impact of these new providers, we need to look at what they are actually offering. Two programs are illustrative.

The first is Google's Information Technology (IT) Certificate Program. Created to fill labor force needs in the field, the program consists of a five-course sequence on computer networking, operating systems, system administration, IT infrastructure, and IT security. Students rate each of these classes 4.7 or better on a five-point scale. It's a sub-baccalaureate program, in a field commonly offered at two- and four-year institutions, worth twelve college credits and awarding a Google badge, which is an accepted employment credential, aligned with professional licensure tests and standards. More than one hundred forty-seven thousand students have enrolled in the program, which Google advises can be completed in six months or less with five hours of study a week at a cost of \$49 per month. The first month is free, and students make a commitment only a month at a time. During the pandemic, Google added two new certificate programs in data analytics and program management to the Coursera platform.

The second is a course offered by the Museum of Modern Art (MOMA) titled In the Studio: Postwar Abstract Painting. One of nine MOMA classes offered through Coursera, it is twentyseven hours in length and priced at Coursera's \$49 per month subscription fee. It has earned a 4.9 rating and currently enrolls more than forty-four thousand students. MOMA describes the course as an in-depth, hands-on look at the materials, techniques, and thinking of seven New York School artists, including Willem de Kooning, Yayoi Kusama, Agnes Martin, Barnett Newman, Jackson Pollock, Ad Reinhardt, and Mark Rothko. Through studio demonstrations and gallery walkthroughs, you'll form a deeper understanding of what a studio practice means and how ideas develop from close looking, and you'll gain a sensitivity to the physical qualities of paint. Readings and other resources will round out your understanding, providing broader cultural, intellectual, and historical context about the decades after World War II, when these artists were active.

This description reads like a modern art course at just about any university. However, 55 percent of alumni who completed surveys attributed a tangible career benefit to the course. The two courses could not be more different—one is purely vocational, and the other is straight up liberal arts. But they have five things in common. They are cheap, convenient, highly rated, heavily enrolled though their completion rates are unreported, and most important they are being offered by non–higher education providers.

The number and range of what are being offered is staggering. If we look beyond Coursera at what else their partners are doing, the Coursera programs are just the tip of the iceberg. For example, in addition to the two certificate programs Google offers through Coursera, it has seventy-eight more of its own and Microsoft has seventy-seven.

On the nonprofit side, the American Museum of Natural History has its own graduate school, which offers a PhD in comparative biology and a master of arts degree in teaching. It also provides six-week online courses on subjects such as the solar system, evolution, climate change, and water for \$549 each with an extra fee for obtaining graduate credit. These courses also qualify for professional development credit for teachers.

The Public Broadcasting System has a wealth of professional development courses for teachers, lasting from an hour and a half to forty-five hours at all grade levels in subjects ranging from reading and math to leadership and instructional technology. It also certifies educators in eight areas of media literacy.

With Coursera, the looming issue for higher education is not just the explosion of content but the world-class standing of Coursera providers. Nonelite universities may be particularly at a disadvantage in competing with industry giants. Students will have the option of studying at and obtaining certification from Google, an international powerhouse with the latest technology and top human capital or the usually more expensive, local, regional university. They will have the choice of studying

at the American Museum of Natural History or MOMA, two of the foremost museums in the world, or at a nearby college.

Another attribute of the new providers is that their programs by and large are online. They are accessible twenty-four seven. They do not adhere to the semester system or the academic clock. They offer a combination of competency- and course-based programs. The new providers are also more agile than traditional higher education. For instance, in March 2020, as colleges across the country were putting their classes online and closing their campuses, Coursera began offering courses on coronavirus and COVID-19. It also announced the Coronavirus Response Initiative, giving pandemic-impacted colleges and their students access to their courses for free. Within a month, two thousand six hundred programs had been used by institutions across the globe. A month later, Coursera unveiled CourseMatch, which automatically matches Coursera courses to their on-campus versions across the globe.

Few of the multitude of new providers will have the stature of Coursera's partners. Some will be analog; most will be digital. Nearly all will enroll fewer students than Coursera. They will vary in length, though predominantly offer around-the-clock access and not be location specific.

It is not at all clear what choices students will make between traditional and nontraditional providers. However, traditional higher education is undoubtedly facing mounting competition from a mushrooming number of new content providers, and students have dramatically more choices—often at lower cost—in how, when, and where they learn.

4. The industrial era model of higher education, focusing on time, process, and teaching, will be eclipsed by a knowledge economy successor rooted in outcomes and learning.

224 LOOKING AT THE PANORAMA

The shift from teaching to learning and from fixed time and process to fixed outcomes will occur for four reasons. The first is educational. The current model assumes all students learn the same things in the same period of time. In reality, if the time and process of education are held constant, student outcomes will vary widely. This is because different individuals learn the same subjects at different rates. Even the same individual learns different subjects at different rates.

We have the system of education we do with fixed time and processes, not because it is the best or most effective way to educate people but because of the time in which it was created. As described earlier, it is a product of the Industrial Revolution in which production was tied to the clock and processes of production were standardized. The industrial-era university mirrors these practices.

Educationally, it makes sense to focus on the outcomes we want students to achieve, what we want them to learn, not how long we want them to be taught. Imagine taking your clothes to a laundry. The proprietor doesn't ask you how long you want them washed. And for good reason. It's an absurd question. Your only concern is that the clothes be clean when you pick them up, irrespective of how long that takes. The outcome is what matters, not the process. The same is true of education.

The second reason is equity. In the current model of higher education, equity means enabling all students to have access to comparable facilities, professors, and programs for the same period of time. That is, equalizing the time and process of education. However, real equity would mean making it possible for all students to achieve the same outcomes, not assuring they will achieve those outcomes but giving them the differential resources they need to have the opportunity to achieve them. Equity is necessarily about access to equal outcomes, not access to equal process or time.

A third reason is that the current model requires all education experiences be translatable into units of time—courses, credit hours, seat time, and degrees. Time, as noted earlier, is the common currency or accounting system used to valuate, compare, standardize, and record educational experiences. For more than a century, this model worked well for the industrialera university.

But it won't continue to work owing to the explosion of new content being produced by employers, museums, television stations, software companies, banks, retailers, and a host of other for-profits and nonprofits inside and outside higher education. They have generated a bazaar of time-based and non-time-based educational content—consisting of course- and competency-based programs; outcome- and process-based education; time-fixed and time-variable instruction; analog and digital formats; formal and informal learning; experiential-, machine-, peer-, self-, and classroom-based learning; individualized and uniform experiences; and degree-, microcredential-, and noncredential-granting education. Even among time-based programs, some are of such short duration, particularly the just-in-time offerings, as to be below the credit radar screen.

It's a grab bag of disparate curricular practices, which is growing increasingly heterogeneous and cannot be translated into uniform time or process measures. The one common denominator they all share is that they produce outcomes, whatever students learn as a consequence of the experience.

It is a difference that will make the historic time- and process-based academic currency and accounting system irrelevant and leave higher education with the need to find a replacement. In the short run, this will minimally require higher education to become bilingual—operate on two different standards—one, courses and credits, and the other, outcomes and learning. In the longer run, higher education will have no alternative but



to embrace outcomes and learning as the knowledge economy accounting system successor. The currency is now being called competencies, though the name may change. "Looking Backward" pointed out that many names and definitions—units, points, credits—were applied before the Carnegie unit name and definition stuck in the early twentieth century. So while the nomenclature may evolve, what is certain is that the currency will be units of learning.

Fourth, the advancement of research on cognitive science, artificial intelligence, and learning science, the newest of the three fields, supports this. Learning science is the interdisciplinary study of how learning occurs in real-world settings—face to face and online—and how to facilitate it. Born at Northwestern University in 1991, learning science graduate programs are now operating at more than seventy-five major universities from coast to coast, from Stanford and University of Washington to New York University and University of North Carolina, Chapel Hill, with Arizona State, University of Wisconsin, and Carnegie-Mellon in-between.

5. The dominance of degrees and just-in-case education will diminish; nondegree certifications, and just-in-time education will increase in status and value.

American higher education has historically focused on degreegranting programs intended to prepare their students for careers and life beyond college. This has been described as just-in-case education because its focus is prospective, teaching students the skills and knowledge that institutions believe will be necessary for the future.

In contrast, *just-in-time education* is present oriented and more immediate, teaching students the skills and knowledge they need right now as in "teach me a foreign language or about pandemics or about a new technology right now." Just-in-time

education comes in all shapes and sizes, largely diverging from traditional academic time standards, uniform course lengths, and common credit measures. It is driven by the outcomes a student wants to achieve. Only a small portion award degrees; most grant certificates, microcredentials, and badges.

In recent years, microcredentials and badges have been much discussed along with speculation about whether they will replace or erode degrees. The reality, however, is that non-degree certifications aren't new to higher education, only calling them badges and microcredentials is. Yale established the first certificate program more than two centuries ago in 1799 for students who took only scientific and English language classes (Geiger, 2015).

Since that time, certificate programs, generally sub-baccalaureate in technical fields and post-baccalaureate in the professions, have become commonplace. A study of four-year institutions more than forty years ago found that 21 percent of arts and sciences colleges and 28 percent of professional schools awarded certificates (Levine, 1978). They are even more common at two-year schools, which in 2018 granted 852,504 associate degrees and 579,822 certificates (Bustamante, 2019).

Certificates and degrees have existed side by side for more than two hundred years and seem destined to continue to do so in the future. However, degrees have always enjoyed a far higher status and been regarded as the far more valuable credential.

Several factors are likely to reset the balance between them. First, there is a growing perception that degrees are declining in value in the labor market, which may prove no more than a temporary blip. For instance, a number of marquee employers have announced they will no longer require college degrees for employment, including Google, Ernst and Young, Penguin Random House, Hilton, Apple, Nordstrom, IBM, Lowe's, Publix,

228 LOOKING AT THE PANORAMA

Starbucks, Bank of America, Whole Foods, Costco, and Chipotle
(Glassdoor Team, 2020).

Media support the notion of the declining relevancy of degrees by pointing out that a number of high-profile technology titans haven't graduated from college, including Michael Dell (founder, Dell Computers), Daniel Ek (cofounder, Spotify), Bill Gates (founder, Microsoft), Steve Jobs and Steve Wozniak (cofounders, Apple), David Karp (creator, Tumblr), Evan Williams (cofounder, Twitter), and Mark Zuckerberg (founder, Facebook).

Finally, public opinion polls have found that a growing percentage of people believe the value of a college diploma has declined. For example, a 2019 Gallup Poll reported a decreasing proportion of Americans consider a college degree to be very important-51 percent in 2019 versus 70 percent in 2013 (Marken, 2019). An American Media-Hechinger Report poll earlier in year had more positive results, finding only 36 percent of American adults believed college was not worth the cost. But their reasons are worth noting-60 percent said people often graduate without specific job skills and a big amount of debt, and 36 percent agreed that you can get a good job without a college degree (Smith-Barrow, 2019). These are the reasons most often cited for enrolling in certificate programs.

A second cause for a possible reset is that periods of profound change like the present and the Industrial Revolution produce curricular flux. Seemingly every aspect of collegiate education becomes a potential object for innovation and experimentation. During the Industrial Revolution, major changes were made in credentialing. New degrees were established such as the PhD, the associate's degree, and the earned master's degree, previously more honorary than academic. Established degrees became more specialized-scores and scores of new disciplinebased baccalaureate degrees came into being, most notably the bachelor of science, which was developed as a means of distinguishing between students who completed a rigorous arts program and those who studied a lesser scientific curriculum. Programs awarding certificates multiplied, too, particularly after the development of continuing education units in the late nineteenth century. And, of course, many, indeed most of the new degrees receded into history such as the sister of arts and the mistress of arts. The bottom line is that this is a period amenable to re-sorting college and university credentials.

The third element is that the demand for just-in-time education will grow much larger. The increasing need for upskilling and reskilling caused by automation, the knowledge explosion, and high pandemic unemployment numbers promises to generate a population seeking just-in-time education, exceeding that currently enrolled in degree programs. Moreover, degree programs are generally discrete, onetime events while just-intime is likely to occur repeatedly throughout one's lifetime. As with the Coursera example, the credentials awarded by those programs will be better aligned with the job market than most degree programs. Just-in-time education will be increasingly anytime, anyplace, consumer determined, individualized, and unbundled. It will do all of these things and by virtue of its scale normalize such student expectations.

At once higher education is experiencing declining degree stature, rising demand for just-in-time certificate programs, and a period of experimentation in academic practice. At a minimum, in the years ahead, degrees can be expected to lose ground to certificates and microcredentials.

The disruption of the newspaper industry tends to be dismissed as not germane to higher education on the grounds that colleges and universities award degrees and largely have a monopoly on those credentials. Newspapers do not. As microcredentials, which are currently largely unregulated and are awarded by a growing number of nontraditional content pro-

230 LOOKING AT THE PANORAMA

viders, increase in status and value, the fate of the newspaper industry grows more and more relevant to higher education.

Impact of the New Realities

These five new realties will transform the industrial era model of higher education and establish the template for its global, digital, knowledge economy successor. The emerging model will have these characteristics.



- Higher education will be based on learning and outcomes. Competency-based education, which is independent of time and process, will become the norm.

 Students will be required to master specified outcomes or competencies to earn a credential. The Carnegie unit and credit hour, which are time-based, will give way to competencies mastered as the currency and accounting system of higher education.
- Certification can be granted for mastering a single competency such as learning a foreign language or for achieving a set of related outcomes such as the Google IT competences. In short, it is the learner's mastery of competences that will be assessed, certified, credentialed, and recorded on student transcripts.

There are two important caveats here. First, competency-based education (CBE) is now an umbrella term for a panoply of differing practices with strong proponents and opponents. The blurred meaning and controversy surrounding CBE may doom the term, but the focus on learning and outcomes as the foundation of higher education will persist, regardless of what it is called.

Second, the transition to competency-based education will be disorderly and chaotic as was the case with its predecessor, will take

the Carnegie unit in the late nineteenth and early twentieth centuries. These are the early days of defining competencies. Today, there are common terms for competencies such as intercultural communication and data literacy. But there aren't common definitions of what those terms mean, the skills and knowledge they entail, or the tools to assess them. As with the standardization of academic practice, which ultimately produced the Carnegie unit, the process of formulating and gaining consensus for competences will not be quick. Once again, it is likely to be a two-stage process—initially creating and using a multiplicity of differing conceptions for the same competency, followed by movement toward common definitions and practices in order to abate the chaos. As with the Carnegie unit, it is likely to take public and philanthropic support to cross the finish line.

- · The universe of higher education providers will expand dramatically to include not only traditional institutions but also a far larger number of nontraditional content producers and distributors, including nonprofits and for-profits, ranging from corporations and museums to television networks and social media platforms. As a result, higher education content will be available digitally, anywhere, at any time. Students will be able to choose from among a plethora of providers, at multiple price points, and access content in the format they prefer in both bundled and unbundled forms and degree and nondegree programs. The competition between traditional and nontraditional providers will be leveled because competency-based education is source agnostic. It assesses only student learning, irrelevant of how it was acquired.
- · Demand for just-in-time upskilling and reskilling will

dwarf traditional just-in-case enrollments, shifting the enrollment balance in degree and nondegree programs, raising the status of microcredentials, and spurring the production and distribution of content by nontraditional providers. The pandemic accelerated this because of the tens of millions of unemployed workers it produced. Assessment will become largely formative, real time and

- Assessment will become largely formative, real time and individualized, seeking to guide students in mastering competencies, which is sometimes called direct and authentic assessment. Earlier, this was likened to the workings of a GPS. Only the final formative assessment will be summative as it demonstrates the student has mastered the competency.
- Certification at least in the short run will be a combination of degrees and microcredentials. The longer-run future of degrees is less certain—a combination of microcredentials in general and specialized studies may achieve the same results as the traditional baccalaureate degree.
 - Transcripts will become lifelong records of the competencies people achieve throughout their lives and the certifying authority for each.
 - Higher education will shift from the analog to the digital—some institutions using digital technology in support of existing analog programs, others in parallel to current analog programs, and the remainder as replacements for existing analog programs. This will occur in all sorts of permutations within institutions as well.
 - The higher education faculty, whose numbers can be expected to decline, is currently composed of subject matter experts engaged in teaching and research. It will be diversified to include learning designers, instructors,

assessors, technologists, and researchers, reflecting the demographics of the nation. The competition for this talent both within and outside higher education will be fierce. As in the film industry, talent is likely to overshadow institutions, and with an abundance of competing providers, an agent may be more valued than tenure. Tuition, which is now largely credit-based, will become subscription-based and tied to outcome attainment, which is Coursera's funding model.

As the higher education system of the global, digital, knowledge economy coalesces, a number of the historical staples of the industrial model will fade away. They will become the equivalent of buggy whips in the automobile age or slide rules in a time of calculators. No matter how important they were in the past, they will have lost their value in the present and future. Two examples are the time-based practices of colleges and universities and the A–F grading system. For some institutions having a costly physical campus could become a liability if students come only to attend classes.

In the industrial model of higher education in which the time and process of education are fixed, it made perfect sense to define and develop academic practice around the clock, but in competency- or outcome-based education the clock becomes irrelevant. As a consequence, historic practices such as credit hours, Carnegie units, credit-based courses, semesters, two-and four-year degrees, measuring faculty workload or student status in credits taught or completed lose their meaning and utility. They become artifacts to be discarded in what Henry Adams called the "ash-heap" of history (2008, 10).

A–F grading is similar. It is a comparative measure of student performance relative to peers and the subject matter being

234 LOOKING AT THE PANORAMA

taught. However, competency-based education, which is rooted in absolute measures, is essentially pass-fail. Students have either mastered a competency or they have not. As a result, A–F grading and the products thereof such as dean's list, class rankings, and graduation honors defined by grade-point average will atrophy as outcome-based education gains in popularity.

Beyond the loss of familiar practices, new methods of quality control can also be expected to emerge. Because content from a multiplicity of providers will be omnipresent and the source of student learning is immaterial in outcome-based education, a new kind of educational institution is likely to emerge—that is, a certifying or validating institution, which does not create or disseminate content, but instead assesses student learning, guides student learning, certifies student learning, credentials student learning, and records student learning. In the short run, one can imagine many such organizations using different definitions of competencies to assess students. As consensus grows regarding those definitions, standards and practices will become increasingly uniform, and the number of such institutions can be expected to decline.

This institution and the shift to outcome-based education will put the current model of accreditation at risk. Accreditation, the peer review, quality improvement, and self-policing agency for the academy, comes in two forms—institutional and program accreditation. Originally created in the late nineteenth and early twentieth century to bring order and common standards to a higher education system lacking in both, accreditation's focus is and has always been on providers, which are still assessed largely on the basis of the best higher education practices of the industrial era. In this time of change and innovation, accreditors and accreditation are increasingly viewed as being slow, outdated, and discouraging of change. This is not surprising because the reason for creating accreditation was to

TON WHAT WILL CHANGE? 235

standardize. Unless accreditation is able to shift its focus from the process to the outcomes of education and from institutions and programs to students, it will lose its utility. The time for accreditation to act is short. Accreditation's current power is that Washington relies on institutional accreditation as a condition for students to receive federal financial aid and a number of states mandate accreditation as a means of quality control. Both branches of government are becoming increasingly critical of the enterprise, and other alternatives are being investigated.

Let's turn to the question of how change this deep and this far ranging could possibly occur in higher education.