

January 2013

 American
Council on
Education™

Leadership and Advocacy

Post-traditional Learners and the Transformation of Postsecondary Education: A Manifesto for College Leaders

By Louis Soares

I. Introduction and Summary

Introduction

A young man who is the son of factory workers nearly dropped out of high school five years ago. While he did graduate, his basic academic skills were so low that he could not pass the military's entry exam, which eliminated a potentially promising career path that many of his peers had taken. Compounding his underdeveloped academic abilities was his complete ignorance about how to explore career options and make a choice—or where to turn for help. Since high school he has drifted from town to town, living with relatives, working odd jobs, and squandering the early work years that are essential to establishing a career. A couple of minor drug possession charges further weaken his prospects.¹

This vignette highlights the many challenges that adults face when they pursue a postsecondary education. The narrative of this life holds the clues to the innovations that will drive the transformation of traditional postsecondary education.

Renowned management theorist Peter Drucker studied innovation across many sectors of the economy. Among his key observations about the drivers of innovation was that while new knowledge and technology were important—“there are more important *sources of opportunity* that drive innovation. Key among these sources of innovation in a sector are ... changes in demographics that drive consum-

er behavior and production and distribution incongruities which arise as a result.”²

In the midst of MOOC (massive open online course) excitement and edX enthusiasm, American postsecondary education leaders and policymakers should take heed of Drucker's observation. There is indeed a transformation coming in American higher education. It is not driven by technology or MOOCs, though these tools abet the change. It will be driven by the rise of post-traditional learners.³

Summary

To keep its competitive edge in the global, innovation-based economy, the United States needs to increase the number of Americans that possess postsecondary levels of academic and applied skills. To this end, the Obama administration had set an ambitious goal of re-taking America's position as a leader in postsecondary attainment by 2020. States are also participating in college completion initiatives, such as the 28-state partnership Complete College America and the National Governors Association's Complete to Compete.

Each of these initiatives views it as critical that the nation improve the output of its K-12 education systems, yet they acknowledge that to hit such an aggressive goal policymakers will need to target improving the educational success of the working age population, those ages 25-64. We refer to these existing and potential college students as post-traditional learners. Post-traditional learners are individuals already in the work force who lack a postsecondary credential yet are determined to pursue further knowledge and skills while

balancing work, life, and education responsibilities. Post-traditional learners reflect a latent market of up to 80 million students able to tap at least some of the \$500 billion invested in postsecondary education and training outside of formal postsecondary education settings.

Post-traditional learners have been a growing presence in America's postsecondary education institutions since the late 1970s. In fact, by many measures these "non-traditional" students have become the norm in postsecondary education. But post-traditional learners are a diverse group. The term encompasses individuals with a range of education needs from high school graduates to high school dropouts and those with limited literacy and English language skills. Post-traditional learners also encompass many life stages and identities; they are single mothers, immigrants, veterans, and at-risk younger people looking for a second chance.

As postsecondary education faculty, administrators, and policymakers have struggled to understand the needs of post-traditional learners, they have developed terms to classify them. These research terms include: adult learners, non-traditional undergraduates, employees who study, independent students, out-of-school youth, and even part-time students. While these statistical categories help us to understand aspects of these learners, they do not capture their essence, identity, or market impact. Indeed, they have another key limitation. The categorizations are inherently institution-centric and view post-traditional learners as an aberration in the demand for higher education services. This institution-centric view creates a blind spot for postsecondary leaders and policymakers when considering post-traditional learners and the broader market for postsecondary education and training in the 21st century. The blind spot causes these leaders to not see that the demand for and nature of postsecondary education is changing in ways that call the current institutional models into question.

The result is that while the data has informed new programs, including continuing

and online education, post-traditional learners still find it difficult to succeed in postsecondary education. Data show that non-traditional undergraduates and "employees who study" are far less likely to complete a credential than their traditional student peers. The simple fact is that our traditional system of two- and four-year colleges and universities with their campus-based, semester-timed, credit-hour driven model of instructional delivery is not well-suited to educate post-traditional learners.⁴

Public policymakers thus turn to America's postsecondary education leaders and institutions to deliver learning experiences for post-traditional learners but they are found lacking. Postsecondary education finds itself between a rock and a hard place. Policymakers are demanding a more educated working age population while fiscal realities are constraining budgets. Innovation—the discovery and application of new pedagogy, technology, and revenue approaches—that maintains quality and reduces costs would seem to be the answer. Yet this type of innovation has been elusive at scale.

We argue that the key to innovation at scale is for postsecondary education leaders and policymakers to see beyond the diversity of post-traditional learners and embrace an important set of five commonalities which drive their postsecondary participation.

Post-traditional learners:

1. Are needed wage earners for themselves or their families;
2. Combine work and learning at the same time or move between them frequently;
3. Pursue knowledge, skills, and credentials that employers will recognize and compensate;
4. Require developmental education to be successful in college-level courses;⁵ and
5. Seek academic/career advising to navigate their complex path to a degree.

These five commonalities are, in turn, reshaping the demand for postsecondary education in the 21st century into a more fluid form of college-going with longer, episodic partic-

ipation. This form of college-going is marked by more customized pathways to degree or credential completion and a focus away from credit hours to the ability to demonstrate and apply knowledge. This new demand encompasses:

- Modular, easy-to-access instruction;
- Blended academic and occupational curricula;
- Progressive credentialing of knowledge and skills (sub-degree level);
- Financial, academic, and career advising; and
- Public policy that reflects the complex task of balancing life, work, and education.⁶

This new demand, the size of the market it represents, and the potential to access new investment will require postsecondary education leaders to re-imagine their role from stewards of an existing enterprise to innovators of a new venture. This will require rethinking postsecondary education's role in a more holistically viewed market, redesigning instruction delivery, and redeveloping the institutional infrastructure for providing these services.

We need a manifesto that seeks to challenge postsecondary education leaders to embrace a future of innovation that may put their current institutional, instructional, and financial models at risk—to in effect disrupt themselves. Given the number of individuals we need to educate, increased pressure for accountability, and lack of resources, this innovative path may be the only thing that can save postsecondary education.

We will first provide a brief primer on innovation to give us a new way to look at the evidence that postsecondary education provides. Second, we will sketch a profile of post-traditional learners that provides the platform for innovation. Third, we will reframe the U.S. investment in postsecondary education and training with a more holistic measure. And finally, we will provide three principles to catalyze a manifesto for college leaders on how to proceed.

II. A Primer on Disruptive Innovation and Post-traditional Learners

Dr. Clayton Christensen's theory of disruptive innovation (DI) is often cited as the underlying framework for why higher education will be "dis-intermediated" or "unbundled," with technology performing every task from teaching to library services to peer networking. Indeed, disruptive innovation theory places a great emphasis on the power of technology to reshape an industry and how it delivers its product and services. Yet, a nuanced reading of DI theory also provides postsecondary education leaders with a tool set for managing innovation that goes beyond technological triumphalism.

Disruptive innovation theory posits that technologies that can simplify complex processes and products aimed at meeting the needs of a segment of the public not currently served (or who are underserved) by existing suppliers can transform an industry, with older producers giving way to new competitors. Three characteristics distinguish disruptive innovation from regular change.

- One is that disruptive innovators target their service or product at the needs of a new group of customers. They provide a simpler, more affordable product than the one offered by incumbent firms. These new customers have a different job they want done, but the incumbents often consider it not worth their time to provide that service because their revenue requirements make the new offering unattractive.
- The second characteristic is that disruptive innovation uses enabling technology. An enabling technology simplifies and routinizes the way a company delivers its service or product.
- The third and final characteristic is that a truly disruptive technology eventually gives way to a new business model—a new way to organize the people, technology, and processes to deliver a service at a lower cost and price to new customers. The new business model al-

lows disruptive innovators to beat their incumbent competitors who are unable to respond because they are locked into an old business model by gross profit needs of serving existing customers.

To summarize, incumbents in a sector tend to prefer sustaining innovations in which they build better products to serve their best customers at premium prices. Disruptors build simpler products at a lower cost to pull into the market consumers who would not otherwise be served. Disruptors transform a market by pulling in new customers.

DI theory grew out of a study of computer disk drives and how this technology transformed the market for computers. The only computers 50 years ago were expensive and one needed to be an expert to use them properly. Years of disruption in the computer sector brought mini-computers, desktops, laptops, and mobile phones. In each case, new customers were introduced to simpler products that became better over time, and in the process the computer market became larger and the shape of demand for computing changed. It is important to remember that mainframes still exist and remain very expensive and are mostly used by highly skilled consumers. They simply are a much smaller part of the overall market.

In postsecondary education, disruption is in its earliest stages as evidenced by the variety of online and occupationally focused programs taking hold. These programs target learners whose work and life circumstances require flexible ways to get their education. Yet except for a small number of niche providers, e.g., StraighterLine and Western Governors University (WGU), we have not seen the type of complete market transformation through expansion. We have not realized similar quality at lower prices.

We can look to the three characteristics of DI for some clues to why and also as a foundation for a growth-oriented expansion of postsecondary education. Organizations such as StraighterLine and WGU have leveraged technology to create a technology-driven

business model. Yet, a 2009 U.S. Department of Education meta-analysis of research on online education⁷ showed that most learners, in particular adult, non-traditional, and at-risk learners, would best be served by blended models of education, in which instruction and other services are performed with different combinations of high-tech and high-touch. Disruptive institutional, instructional, and revenue models that reflect this data have yet to be applied and scaled in postsecondary education broadly.

The key to understanding what mix of high-tech and high-touch is the future of postsecondary education must come from an in-depth understanding of student (customer) needs. In the case of disruptive innovation, the customer with the potential to transform the market through expansion is the post-traditional learner. (See next section for full description.)

To see why, let us turn to a little discussed aspect of disruptive innovation theory—circumstance-based marketing. DI theory posits that for markets in which non-consumers have the potential to transform the market through growth, producers must understand the process by which these non-consumers are brought into the market. For Christensen, customers become aware of a job that they need to get done in their lives, and they look around for a product or service that they can “hire” to get that job done. The functional, emotional, and social dimensions of the jobs that customers need to get done constitute the circumstances in which they buy. In other words, the jobs that customers are trying to get done or the outcomes that they are trying to achieve constitute a circumstance-based categorization of the market.⁸

Companies that target their products at the circumstances in which customers find themselves, rather than at the customers themselves, are those that can launch predictably successful products. The critical unit of analysis is the circumstance and not the customer.⁹

Given the size of the post-traditional learner market and the investment it represents,

circumstance-based marketing points the way to how to transform postsecondary education delivery through market growth by making the basis for innovation the jobs they want done.

In the next section, we support this assertion by providing evidence that traditional learners are no longer the norm in postsecondary education and, in fact, we are seeing the rise of a whole different breed of college-goer.

Before turning to the data, it is important to remind ourselves of the profoundly human and radically changing nature of the job to be done for the post-traditional learner.

A young California woman knew soon after finishing high school that her minimum-wage, fast-food job wouldn't build her much of a future. But it took 15 years of part-time work, part-time school, and a lot of help to find her way to a family-sustaining career. It was only after seeing a flier in a welfare office that she enrolled in training that enabled her to move from being a medical assistant, to a lab technician, to a certified nursing assistant. Now she is working toward becoming a nurse.¹⁰

This young woman's path to a postsecondary credential is marking the trail to a radically different way to deliver a quality and affordable college education.

III. The Rise of the Post-traditional Learner

Why the Term Post-traditional Learner?

Before moving forward with a survey of available data that illustrate the rise of the post-traditional learner, it is important to be intentional about our use of terms. While we use the available data on non-traditional students to enforce our argument as best we can, we have selected the term post-traditional learner to describe the population of working age adults (ages 25 to 64) for three reasons. The first, as we argue in the introduction and summary, is that terms currently used for data and statistical purposes—nontraditional, employees who study, independent, at-risk—frankly describe these learners as aberrations to the postsecondary education system rather than the courageous learners they are. Second, statistically speaking, these categories are becoming increasingly irrelevant, as the data survey below will show. Third, we believe that post-traditional learners and their need for customized education experiences is actually mirrored by millennial generation students now enrolling in postsecondary education who show a deep desire to integrate experience and education and tailor their learning.¹¹ Thus the term post-traditional is also intended to infer the emergence of a form of college-going that is still emerging but cross-generational and aligned with the innovation economy's emphasis on lifelong learning.

Post-traditional Learners: The New Normal

According to the National Center for Education Statistics, for the academic year ending 2009, there were 17.6 million undergraduates seeking degrees in the United States.¹²

But who are these undergraduates? Americans have a mental model of postsecondary education as a four-year experience that results in a bachelor's degree by age 22. In this model, students go to a college campus and experience a mix of instruction in increments of three credit hours per course, learn about who they want to be and eventually, after four years, receive a credential. Students that fit into this model are categorized as "traditional."

For statistical purposes, these are students that go to college immediately after high school, attend full-time, and are financially dependent on their parents. Over the last 30 years, however, the data indicate that the number of students actually fitting this traditional model has been dropping. And as a result, “college is less a safe haven in which to grow into adulthood and more an obstacle course of economic stress and cross pressure between family, work, and education.”¹³

The startling reality is that, according to the National Center for Education Statistics, today traditional students represent only about 15 percent of current undergraduates. They attend four-year colleges and live on campus.¹⁴ The remaining 85 percent, or about 15 million undergraduates, are a diverse group that includes adult learners, employees who study, low-income students, commuters, and student parents.

Unpacking this 85 percent a little further, we find that:

- 38 percent of those enrolled are over the age of 25 and one-fourth are over the age of 30.¹⁵
- The share of all students over age 25 is projected to increase another 23 percent by 2019.¹⁶
- The average age of a Pell Grant recipient (26) has been rising for the last 20 years.¹⁷
- Nearly a quarter of postsecondary students in the United States (3.9 million) are parents.¹⁸ Half of student parents are married, and half are unmarried.¹⁹
- 43 percent of all undergraduates attend community colleges.²⁰ And, adult learners make up as much as 60 percent of all community college students.²¹
- 30 percent of undergraduates enrolled at public four-year regional colleges and universities are adults over the age of 24.²²
- Almost 40 percent of all undergraduates and about 60 percent of those attending public two-year colleges are enrolled part-time.²³

Work is becoming more common among all students. In 2010, more than one-third of all undergraduates were employed full-time while enrolled, and 44 percent work part-time during the semester.²⁴

Post-traditional learners, ages 25 to 64, have always been more likely to work and drive these ratios up; however, younger students are also working more. In 2010, about 40 percent of full-time and 73 percent of part-time college students ages 16 to 24 were employed.²⁵ In fact, a recent analysis of the National Postsecondary Student Aid Study calculated that 82 percent of undergraduates say they can’t afford to go to school without working.²⁶

Postsecondary students are also becoming more mobile. Data from national longitudinal studies that looked at how students actually attend college over the 1990–2000 decade indicate high levels of transfer among postsecondary institutions, with two-thirds of all students who eventually earn a baccalaureate degree having attended two or more colleges or universities.²⁷

The growth in demand for online learning provides evidence for the growth of post-traditional learners, who make up the lion’s share of enrollments in this form of postsecondary education. A recent survey by Aslanian Market Research and The Learning House, Inc. found that 80 percent of those enrolled in online programs were 25 or older.²⁸ More than 6 million students were taking at least one online course during the 2010 academic year.²⁹ This represented 31 percent of total enrollment and a quintupling of participation in online learning since 2002. Further, almost 70 percent of postsecondary institutions that offer online education report that to a major extent they provide this service to give access to students who would not otherwise attend due to geographic, family, or work-related reasons.³⁰

In addition to their personal demographics, the types of education and credentials being sought by post-traditional learners are reshaping the demand for postsecondary credentials. Slightly more than half of today’s

students are seeking “sub-baccalaureate credentials” (i.e., certificate, technical/occupational license, or associate degree). In 2009–10, postsecondary institutions conferred 935,000 certificates and 849,000 associate degrees compared with 1.7 million bachelor’s degrees.³¹ With regard to credential attainment, it is worth noting that extant research is clear that many post-traditional learners require some type of developmental education,³² which can make serving them more of a challenge.

As a final note to demonstrate that post-traditional learners are the new normal, the line between undergraduate adult students (25 and older) and traditional-age students (26 and younger) gets increasingly blurred as more and more college students of all ages seek alternative ways of learning—part-time, evenings, weekends, off-campus, or online.³³ In fact, evidence from studies of the millennial generation, ages 18 to 29, now enrolling in college demonstrates a preference toward customized, blended learning experiences that allow them to integrate life and learning.³⁴ This closely mirrors the customization sought by their older post-traditional learner peers.

The survey of data above describes a much different type of learner than a bright-eyed 18-year-old going off to a college campus on Mom and Dad’s checking account. Post-traditional learners—older, working, attending part-time, often with children of their own—have become the new normal.

Post-traditional Learner Experience in Postsecondary Education

Having established that post-traditional learners are, in fact, the undergraduates of the 21st century, let us turn to their actual experience in postsecondary education to consider how they fare. To do this, we look to two studies commissioned by the National Center for Education Statistics (NCES). The first is a 2002 report titled *Nontraditional Undergraduates*. The second is a 2003 report titled *Work First, Study Second: Adult Undergraduates Who Combine Employment and Postsecondary Enrollment*.

The *Nontraditional Undergraduates* re-

port used National Postsecondary Student Aid Study data to examine student demographic data and enrollment patterns and Beginning Postsecondary Students Longitudinal Studies data to examine the relationship between non-traditional status and persistence. The *Work First, Study Second* report also used both data sources but limited its sample to individuals over the age of 24. While these studies were conducted a decade ago they remain the foundation of much of the writing since regarding post-traditional learners. Taken together, these two studies provide the best approximate snapshot of postsecondary attainment for the group we have termed post-traditional learners.

In the 2002 report, *Nontraditional Undergraduates*,³⁵ the National Center for Education Statistics defined a non-traditional learner as a student with any of seven characteristic risk factors:

- Has delayed enrollment in postsecondary education beyond the first year after high school graduation;
- Attends part time;
- Is financially independent from his or her parents;
- Works full time;
- Has dependents other than a spouse;
- Is a single parent; or
- Has no high school diploma or GED® test credential.

While not all nontraditional students are adults, that is, over the age of 24, by definition all adults in the sample are nontraditional—they exhibit multiple risk factors. The NCES study found that non-traditional students are considerably less likely to complete their program. Three years after enrolling in a community college, nearly half of non-traditional students have left school without a degree, compared with only one-fifth of traditional students. Similarly a six-year study of students enrolled at four-year colleges and universities found non-traditional students with at least two risk factors completed at a rate of less than 15 percent, compared with 57 percent of traditional students.³⁶

In 2003, *Work First, Study Second* took a focused look at adult undergraduates who both work and attend college—about 82 percent of the population of adults age 24 and older enrolled in some type of postsecondary education.³⁷ This study contrasted the characteristics and college experiences of two groups: students who work (i.e., individuals who saw themselves as students first, working to help pay expenses) and employees who study (i.e., individuals who saw themselves as workers first, taking college programs to help them improve their job prospects or for other reasons). In 1999–2000, a significant majority—about two out of three working college students—saw themselves as employees first and students second. Among both groups, getting a degree or credential was their primary goal. Among employees who study, about a third had enrolled because their job required them to seek additional education.

Employees who study tend to be older, work more, attend school less, and have family responsibilities, compared with their peers whose primary activity was being a student. They tend, therefore, to be more likely to have the multiple risk factors associated with moderately and highly non-traditional students. Indeed, adults who are working full time and studying part time have trouble completing their programs. Six years after beginning postsecondary studies, 62 percent of these adult learners (employees who study) had not completed a degree or certificate and were no longer enrolled, compared with 39 percent of students who work. Employees who study were at particular risk of leaving postsecondary education in their first year with no credential, compared with only 7 percent of students who work.³⁸

Key Challenges/Commonalities of Post-traditional Learners

From the studies, we see that post-traditional learners do not fare well in completing postsecondary studies as compared with their traditional counterparts. The reasons for this poor showing are straightforward and point the way to the commonalities among this di-

verse group. Many have rusty basic skills and struggle academically. They work in low-paying jobs and lack resources to invest in education. They lack good information about labor market opportunities and become frustrated at what their education is getting them. They have little scheduling flexibility because of work and family obligations and thus pursue postsecondary credentials at a slower pace.

A 1998 study by Mathematica Policy Research³⁹ found four consistent and powerful barriers to further education for working adults: the lack of time to pursue education; family responsibilities; scheduling of course time and place; and the cost of educational courses.

More recently, a 2007 national survey of 1,500 adult students conducted by Lumina Foundation revealed key factors that support the success of post-traditional learners. These factors include:

- Convenience to work and home;
- Affordability;
- Good information regarding programs and processes;
- Child care supports; and
- More convenient course delivery systems.⁴⁰

Managing time, finding financial resources, taking courses when time permits, understanding the connection to labor market outcomes, and navigating a complex education journey are the shared experiences of all post-traditional learners. It is upon these shared experiences that we find common ground to build postsecondary education institutions and pathways that make sense and will lead to completion.

In the next section, we explore a more holistic measure of America's investment in postsecondary education and training that provides context for the nature of post-traditional learner demand and points to new resources to harness to transform postsecondary education.

IV. A More Holistic View of Postsecondary Education Investment

Post-traditional learner demand for postsecondary education is shaped by the skills in demand in the nation's economy. In this section, we reframe the nation's investment in postsecondary education. First, we illustrate the demand for postsecondary levels of academic and applied skills. Second, we explore the size of demand for postsecondary education among post-traditional learners. Third, we illustrate a more holistic measure of national investment in postsecondary education with a special focus on the emergence of a new ecosystem for learning validation outside the academy.

The U.S. Economy Demands Postsecondary Academic and Applied Skills

With the advent of the innovation economy, new technologies, technology services, globalization, and changes in the way businesses organize work are driving the increase in the demand for postsecondary level skills and credentials. According to Georgetown University's Center on Education and the Workforce, nearly two-thirds of jobs will require some postsecondary education or skills training by 2018.⁴¹ This total encompasses high skill occupations that require bachelor's degrees, such as engineers and physicians, which account for about one-third of skills demand. But this also includes occupations that require associate degrees and technical certificates—paraprofessionals in health care, IT support staff, and windmill technicians.

The Georgetown researchers estimate that to promote economic competitiveness and economic mobility will require the United States to produce an additional 3 million workers with associate degrees or higher and 5 million workers with technical certificates and credentials by 2018—above and beyond the current pace of development.⁴²

But a demand for credentials (and the projected shortfall in meeting demand) is not the only relevant issue to postsecondary education innovation. Classroom studies provide a foundation of knowledge and postsecondary

credentials offer a useful signal to employers that a post-traditional learner has specific qualifications and competencies. However, in addition to credentials, employers are now demanding that new hires have hands-on experience as well. Call it a demand for expertise. Employers are increasingly seeking individuals with both technical knowledge in their field and also practical experience solving workplace problems.⁴³ Of course, employers have always valued experience in more seasoned veterans; what is changing is the emphasis on applied problem-solving skills in newer workers.⁴⁴

This trend is being driven by the automation of work processes as well as the competitive pressure to reorganize work practices on the front line to an ever-changing consumer demand. Noted global competitiveness expert and Harvard Business School professor Michael Porter describes the necessary skills this way:

“Competitive workers must have the ability to apply academic or technical knowledge to solve real-world problems... and to work effectively with other people as customers, coworkers, and supervisors.”⁴⁵

The type of integrated postsecondary education that yields this knowledge and skills mix is not commonplace in higher education. One promising example is the Liberal Education and America's Promise initiative (LEAP), through which more than 150 members of the Association of American Colleges and Universities are striving to integrate the elements of a liberal education across all areas of study, including career and professional disciplines (Association of American Colleges and Universities, 2007). LEAP could be a foundation for a new form of postsecondary education that meets labor market needs.

The innovation challenge for postsecondary education leaders with regard to the dual issues of credential production and the emergent demand for blended academic and applied skills on the part of post-traditional

learners is determining which institutional, instructional, and financial models can produce this education at scale.

In the next section, we take a broader look at national investment in postsecondary education and training that provides a clue to the availability of resources for scaling a fully integrated form of postsecondary education.

Post-traditional Learner Demand for Postsecondary Education

The growing demand of post-traditional learners for postsecondary education is massive. Here we use existing data sets for working age adults as a proxy for post-traditional learner demand. According to the U.S. Census Bureau, in the 2010 American Community Survey, more than 60 percent of the U.S. population between the ages of 25 and 64 had no postsecondary education credential. This is approximately 100 million individuals. Estimates range as high as 80 million to 90 million individuals with no postsecondary credential who could benefit from some type of postsecondary education.⁴⁶

This is, of course, latent demand or what Christensen would call non-consumption. But data from the U.S. Census Bureau's National Household Education Survey (NHES) show increasing participation in postsecondary education on the part of adult learners. The NHES shows consistent increases over the past few decades in the number of adults participating in some form of postsecondary education or training and taking work-related courses. The number of adults engaging in any form of adult education increased from 58 million in 1991 to 90 million in 1999.⁴⁷ In 2003, 33 percent of the population over 25 reported participating in work-related courses (defined by the Department of Education as courses on narrow topics, delivered in concentrated courses, usually in non-accredited postsecondary institutions), which was up from 24 percent in 1999.⁴⁸

Further, many more adults would like to participate in work-related courses than currently do. A review of the 2005 NHES indicated that there may be as many as 37 million adults who are interested in work-related adult

education but unable to participate.⁴⁹

This potential market of 80 million non- or under-consumers of postsecondary education is of critical importance to national competitiveness. According to the Aspen Institute, for instance, two-thirds of our expected workforce in 2020 is already beyond our elementary and secondary education systems.⁵⁰ In other words, it will not be enough to solve the problems in our elementary and secondary education systems since two-thirds of the workforce will be unaffected by those changes. To put the scale in context, over the next 10 years about 30 million young people will graduate from high school in the United States, and many will be prepared for college—but there are today twice as many adults already in the work force who have no postsecondary credentials.⁵¹

America's National Investment in Postsecondary Education and Learning Validation

Now we turn to a reframing of America's total investment in postsecondary education and training. Postsecondary education leaders, researchers, and policymakers often miss the true impact of post-traditional learners on postsecondary systems. The primary reason for this is that they conflate postsecondary learning and education exclusively with traditional college settings while in a knowledge economy meaningful learning is happening (and required) in many different places, i.e., online, in the workplace, and as part of military service.

Economists at Georgetown's Center on Education and the Workforce have documented this "holistic" measure of national investment in postsecondary education. The researchers calculate an estimated \$772 billion invested in postsecondary education and training in the United States with only 35 percent spent in formal two- and four-year colleges and universities.⁵² Approximately \$271 billion of this investment is going into credit-bearing postsecondary education at colleges and universities, serving 21 million individuals. The remaining \$501 billion is invested in learning experiences occurring in workplaces (i.e., apprenticeships, training programs, and on-the-job training)

and other venues including military service, community-based organizations, and volunteer experiences serving an estimated 22 million individuals.

This investment breakdown is instructive on a few levels. The first level is the astounding fact that a considerable investment in learning is being made outside the academy. The second is that many of these resources are being invested with individuals that fit the working definition of post-traditional learners.

Corporate Universities, Prior Learning Assessment, and Learning Validation

As we seek to understand the nature of the investment in postsecondary education outside the academy, one indicator to consider is the rise of the corporate university in the latter half of the 20th century. Jeanne Meister, former director of research for the American Society of Training and Development and author of the bestselling book *The 2020 Workplace*, has documented the explosive growth of corporate universities. In 1993, there were approximately 400 corporate universities in the United States. Today, estimates show that there are between 2,800 and 3,000.⁵³

Where is this growth coming from? Large and medium sized corporations are building out this corporate university infrastructure because an innovation economy is a learning economy. To be globally competitive, these organizations need to develop knowledge and skills in ways that are not being attended to by the academy. So a sophisticated learning infrastructure is emerging that is admittedly career focused but not necessarily less rigorous in its curricula and standards of performance. One standout example of such a top program is GE's John F. Welch Leadership Development Center in Crotonville, New York. GE's management preparation curricula are a rigorous mix of global cultural competency, leadership, management disciplines, and technology application. Famously, GE's managers who have been through the program are heavily recruited by competitors seeking 21st century management talent.

Prior Learning Assessment

Corporate universities and other non-college based learning programs (e.g., military and community-based) have, in turn, given rise to a demand to evaluate learning outside the academy for college credit. This process is called "prior learning assessment" and uses examinations, portfolios, and reviews to ascertain if the postsecondary education that occurs outside college classrooms can be awarded college credit. Demand for prior learning assessment has existed at least since World War II, when the American Council on Education began a credit recommendation service to value for credit-worthiness learning done by GIs in service.

The 1970s saw an upsurge in demand, with other organizations scaling efforts to award credit, including: The Council for Adult and Experiential Learning, The College Board, Excelsior College, and DANTES military exams. The mechanisms used to evaluate experiences for credit-worthiness range from portfolio assessment to exams to credit for training. Most recently, interest in prior learning assessment has been piqued in stories related to MOOCs offered by venerable universities.

While the MOOC discussion is inspiring excitement and trepidation, the important element to consider is the emergence of a set of entities which are capable of evaluating different learning experiences for credit-worthiness. Thus far this competency has been largely used at the margins of postsecondary education, not surprisingly because it is closely associated with the characteristics of post-traditional learners. MOOC initiatives could be the accelerant that moves these organizations to scale in mainstream postsecondary education delivery.

The investment of \$500 billion in education outside the academy, the rise of corporate universities, and the expanded interest in prior learning assessment are all pointing to the emergence of an ecosystem for validating learning that encompasses and supersedes the academy.

To observe this newly coalescing ecosystem, we turn to the last element of our refram-

ing of postsecondary education—competency-based education.

Competency-based Education and Learning Validation

A final, and provocative, indicator of the rise in postsecondary education at the intersection of the academy and the workplace is the growing interest in competency-based education. Prior learning assessment seeks to equate “outside college learning” to college credits. In a competency-based education approach, students advance when they have demonstrated mastery of a competency, which is defined as “a combination of skills, abilities, and knowledge needed to perform a task in a specific context.”⁵⁴ Mastery is the sole determinant of progress, which means that delivery options multiply and expand since any instructional method or instructional provider that can move a student toward mastery is theoretically acceptable.⁵⁵ With regard to college credits, one can imagine a future in which competencies validated by a reliable evaluator could replace the college credit.

The emergence of competency-based education is being driven by more systemic pressures. In a global knowledge economy, employers demand ways to affirm the knowledge, skills, and abilities of workers, and employees continuously seek to remain competitive by pursuing more learning. Driven by this need to optimize human capital production, nations, higher education systems, and employers are coming together to develop competencies and learning outcomes that can be used to guide instruction and assessment, thus ensuring quality and increasing productivity promoting optimal use of national resources.

The initiatives that develop these competencies and learning outcomes tend to be partnerships between postsecondary education institutions and other stakeholders, especially philanthropic and industry-based groups. Let’s turn now to two such initiatives—the Degree Qualifications Profile and the Manufacturing Skills Certification System.⁵⁶

The Degree Qualifications Profile initiative, supported by Lumina Foundation, is

a framework for illustrating what students should be expected to know and be able to do once they earn their postsecondary degrees. The initiative proposes specific learning outcomes and competencies that benchmark the associate, bachelor’s, and master’s degrees along five dimensions.

- Applied learning: Used by students to demonstrate what they can do with what they know.
- Intellectual skills: Used by students to think critically and analytically about what they learn.
- Specialized knowledge: The knowledge students demonstrate about their individual fields of study.
- Broad knowledge: Transcends the typical boundaries of students’ first two years of higher education and encompasses all learning in broad areas through multiple degree levels.
- Civic learning: Enables students to respond to social, environmental, and economic challenges at local, national, and global levels.

The Degree Qualifications Profile initiative is currently partnering with 100 institutions in 30 states to build out the framework in a variety of disciplines: biology, chemistry, education, history, physics, and graphic design.

An industry-driven initiative, the National Association of Manufacturers’ Manufacturing Skills Certification System has developed a structure of stackable credentials indicating that workers have attained competencies for increasingly sophisticated levels of work across many areas of manufacturing, from machine operator to engineer to management positions.

The essential elements of the Manufacturing Skills Certification System are:

- A collection of competencies that together defines a successful, high-performance manufacturing workforce;
- Industry-driven certifications that align with competencies; and
- Best-in-class curriculum to articulate for-credit education pathways that will ensure students achieve the compe-

tencies necessary to achieve industry credentials.

This initiative is already beginning to bridge the worlds of workplace competencies and postsecondary education. In 2011, the National Association of Manufacturers announced a partnership with the University of Phoenix in which the association's competency-based curriculum and credentials will form the core of a bachelor's in management at the online university.

Competency-based education, corporate universities, and prior learning assessment are all indicators of nations striving to meet the demands of their labor markets for postsecondary knowledge and skills and educate post-traditional learners in an efficient and cost-effective manner. They also point to the emergence of a new ecosystem around the need to validate learning that is occurring in non-credit environments—to capture prior learning to better engage adult learners, help them persist, decrease time to degree, and reduce the cost.

This ecosystem is another foundation that makes the disruptive innovation of postsecondary education both possible and likely. It is our contention that current postsecondary leaders should take up the rise of the post-traditional learner and the emergence of a learning validation ecosystem as partners and tools to lead the vanguard of transforming the very system they now control.

A final post-traditional learner vignette helps us to illustrate the extent of the needed transformation and its urgency.

A bright 27-year-old Rhode Island woman has been blending work and learning for a decade. She is from a working class family and graduated high school nine years ago. Having worked at a pharmacy and doctor's office part-time in high school, she

thought that nursing would be the career for her. She has been slowly and methodically working in physician's offices while taking health care-related courses at a total of six community colleges and universities. Her earned income, combined with some financial aid, provides the means to afford college and cover life expenses (with additional support from her parents). First, she targeted achieving an associate in medical assisting. Then, as a result of her work experience and interactions with doctors, nurses, and managers she realized she enjoyed the business side of health care. So she modified her education plan electing to pursue her bachelor's degree in health care administration.

Along the course of this complex journey she was confronted by a postsecondary education system with little ability or interest to adapt to her life circumstances. She has taken the same general education requirements several times because institutions didn't accept transfer credits. Financial aid rules limited her ability to get aid when she needed to attend only one course. Academic and career advising were almost non-existent to help her navigate the complexities of life and education. Repeated attempts to have her 10 years of work experience in health care reviewed for credit equivalency have gone unheard. Not surprisingly, discouragement and a growing debt load have been dogging her desire and ability to complete her degree.⁵⁷

This young woman cannot afford to wait. She, along with millions like her, needs a transformed postsecondary education system in order to reach her full potential.

V. A Manifesto for College Leaders on Innovation in Postsecondary Education

The post-traditional learner vignettes throughout this brief were meant to put a human face on what it will mean to educate America in the coming years. Educating millions of post-traditional learners will prove to be a moving target as the demand for customized learning experiences grows, driven by learning style, purchasing preferences, and life responsibilities. The nation's postsecondary education leaders must move beyond their historical roles for expanding access, making college affordable, and ensuring quality to intentionally promoting innovation.

We propose three principles for harnessing these realities as a foundation for intentionally disrupting current institutional, instructional, and revenue models to achieve better results for post-traditional learners and the nation:

1. Go Beyond the Academy to Take Leadership—A Consortium for Teaching and Learning;
2. Rebuild the Definition of Postsecondary Education from the Post-traditional Learner Out; and
3. Be Entrepreneurs of a New Venture, Not Stewards of Existing Institutions.

Go Beyond the Academy to Take Leadership—A Consortium for Teaching and Learning

The needs of post-traditional learners and the economy's demand for academic and applied skills go well beyond the current expertise of America's traditional colleges and universities. While the challenges have been with us and even discussed for years, there has never been a sustained, postsecondary education leader-driven effort to actually place innovation at the forefront of a national postsecondary education transformation agenda. Postsecondary education leaders need to take the lead while bringing in other stakeholders including public policymakers and business leaders to create such a sustained effort.

While there have been many national commissions and even nonprofit organizations formed to address education issues in the

United States, none have questioned the foundations of the academy. A contemporaneous example of this lack of innovation leadership is that postsecondary education seems almost unable to frame the correct research questions with regard to MOOCs. There is simply a lack of curiosity about this type of innovation at scale. The specific intent of this group of postsecondary leaders and other stakeholders would be to explore disrupting current institutional, instructional, and revenue models.

SEMATECH may be a useful model.

Formed in the 1980s, SEMATECH was a consortium of semi-conductor firms, research labs, and public policymakers formed to promote the success of the U.S. semi-conductor industry. SEMATECH focuses on research to solve common problems and to push the industry to the next level of science and competition in semi-conductors.

Postsecondary education leaders should push for the creation of a similar consortium with a focus of expanding the frontiers of teaching and learning for post-traditional learners. The consortium would bring together the best researchers in cognitive science, instructional design, information technology, and public policy to transform the nation's most important competitive engine—postsecondary education.

Rebuild the Definition of Postsecondary Education from the Post-traditional Learner Out

The image of a 22-year-old walking across a stage to accept her bachelor's degree is a powerful "mental map" familiar to most American families. This mental map of the ideal journey through postsecondary education reflects both the historical development of the academy and a rite of passage in our middle-class identity. College completion leads to a career, a family, and settling down to a prosperous lifestyle.

This mental map defines how individuals and families make college choices; what courses students take in high school; how guidance counselors provide advice; what and how colleges teach; and, of equal importance, the tools that public policy uses to promote the attainment of college credentials. In short, it circumscribes both the demand and supply

of postsecondary education.

Postsecondary education leaders must take the lead in making it acceptable to redefine what postsecondary education and college actually mean in today's economy. The mental model above may work as an ideal, but in practice, it oversimplifies a very complex set of life realities and decisions faced by post-traditional learners to the point of being negligent. Post-traditional learners call much of the model into question.

Given the extent and nature of skills in demand, is the baccalaureate the right gold standard for postsecondary education? Or is a new hybrid academic and applied credential a better fit for millions of learners?

Given the desire for modular, episodic learning, is institutional accreditation the right level? Or is course-level accreditation the correct approach for 21st century education delivery?

What is the right mix of high-tech and high-touch? For which learners is that mix appropriate?

These questions are being asked. But too often they are being asked of postsecondary education leaders, not by them as a means to innovate current institutional, instructional, and revenue models.

We need a new mental model of college that suits post-traditional learner realities. Embracing post-traditional learners as innovation partners and not excluding them as aberrations is the key to unlocking this new mental model. Postsecondary education leaders must be our guides in answering these questions and fomenting learner-centric innovation.

Be Entrepreneurs of a New Venture, Not Stewards of Existing Institutions

Harvard didn't always look like it does now. It was developed over a century with fits and starts evolving from a religious training school to a global research university. This process was quite entrepreneurial, with much trial and error in attempts to respond to student and societal needs.

Yet today, postsecondary education leaders seem more intent on protecting the existing enterprise than solving the nettlesome challenges of educating an ever more diverse and demanding group of learners.

Entrepreneurs identify problems that consumers are having that no one else is solving. As documented above, post-traditional learners certainly provide a set of postsecondary attainment problems to be solved. Based on their success rates in postsecondary education, no one has really solved these problems yet.

Postsecondary education leaders and policymakers must acknowledge that these types of problems require entrepreneurship to be built into education marketplaces. For example, competitive venture funding could be built into operating budgets and state subsidies as a means to encourage experiments to solve post-traditional learner challenges and then scale them if they work.

Postsecondary education leaders are too often coaxed into entrepreneurship by extra-institutional stakeholders such as policymakers. Postsecondary education leaders should be the entrepreneurs of learning, not the coaxed incremental change agents.

VI. Conclusion

The needs of post-traditional learners, a national innovation economy, and an information-driven democracy are calling forth a new era of innovation in higher education. The early 21st century presents an entrepreneurial opportunity for higher education leaders not unlike the one that generated the emergence of community colleges and the English liberal college/German research university hybrid in the 19th century.

In the 20th century, much of the literature on the evolution of higher education focused on key public policy initiatives such as the GI Bill, the Morrill Act, and later the Higher Education Act. These public policies were remarkably successful in expanding access for millions of Americans and making the United States a human capital driven powerhouse. Along with state policy, they also came to circumscribe the institutional, instructional, credentialing, and financing boundaries of the postsecondary education—limiting the academy’s ability to re-imagine itself.

In a successful 21st century, the literature to be written must point to a bottom-up entrepreneurship, in which, postsecondary education leaders transformed institutional, instructional, credentialing, and financing models based on the learning needs of post-traditional learners. These new forms will produce more learning for students, rewrite public policy, and create an era of post-traditional learning aligned with a knowledge society and innovation economy.

Such a vision of change requires the energy, vision, and passion of a movement. We offer this Manifesto for College Leaders as a catalyst for such a movement. ■

About the Author

Louis Soares serves as a special policy advisor to the president of ACE, and is a policy and practice consultant providing executive insight for higher education leaders and a fellow at the Center for American Progress, a Washington, DC-based think tank. He is a sought-after speaker and expert on post-traditional learners, technology strategy in higher education, and community college reform. He lives in Seattle, Washington.

This paper represents his views and not necessarily those of the American Council on Education.

Endnotes

- ¹ Adapted from: Choitz, V., Pleasants, R., & Soares, L. (2010). *A new national approach to career navigation for working adults*. Center for American Progress.
- ² Drucker, P. (2008). *The essential Drucker: In one volume the best of sixty years of Peter Drucker's essential writings on management*. New York: Harper Business.
- ³ The term post-traditional learners grew out of a conversation with John Ebersole, president of Excelsior College. He elaborated that adult learners were not nontraditional or at-risk but rather post-traditional.
- ⁴ Choy, S. (2002). *Nontraditional undergraduates*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics; Berker, A., Carroll, C.D., & Horn, L. (2003). *Work first, study second: Adult undergraduates who combine employment and postsecondary enrollment*. Washington, DC: U.S. Department of Education, Institute for Education Sciences; and U.S. Department of Labor, Employment and Training Administration. (2007). *Adult learners in higher education: Barriers to success and strategies to improve results*. (Occasional Paper).
- ⁵ Adapted from: Soares, L. (2009). *Working learners*. Center for American Progress. Expanded definition of learner to include non-traditional millennial-generation learners.
- ⁶ Mazzeo, C., & Soares, L. (2008). *College-ready students, student-ready colleges: An agenda for improving degree completion in postsecondary education*. Center for American Progress.
- ⁷ <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>.
- ⁸ Christensen, C. M., & Raynor, M.E. (2003). *The innovator's solution: Creating and sustaining successful growth*. Boston: Harvard Business School Press.
- ⁹ Ibid.
- ¹⁰ Adapted from: Choitz, V., Pleasants, R., & Soares, L. (2010). *A new national approach to career navigation for working adults*. Center for American Progress.
- ¹¹ <http://net.educause.edu/ir/library/pdf/erm0342.pdf>; <http://cathysandeen.files.wordpress.com/2009/11/cher-sandeen-generations-fall-082.pdf>.
- ¹² U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2010). *Digest of education statistics*.
- ¹³ Attewell, P., & Lavin, D. (2012). The other 75%: College education beyond the elite. In Lagemann, E.C., & Lewis, H. (Eds.). *What is college for? The public purpose of higher education*. New York: Teachers College, Columbia University.
- ¹⁴ U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2010). *The condition of education 2010*.
- ¹⁵ http://getcollegecredit.com/blog/article/back_to_the_books_a_profile_of_non_traditional_students.
- ¹⁶ National Center for Education Statistics, 2004.
- ¹⁷ U.S. Department of Education, National Center for Education Statistics. 2007-08 National Postsecondary Student Aid Study (NPSAS:08) and the 2009 follow-up to the 2003-04 Beginning Postsecondary Students Longitudinal Study (BPS:04/09).
- ¹⁸ Miller, K., Gault, B., & Thorman, A. (2011). *Improving child care access to promote postsecondary success among low-income parents*. Institute for Women's Policy Research.
- ¹⁹ <http://www.iwpr.org/initiatives/student-parent-success-initiative/resources-publications/#lates%20publications>.
- ²⁰ <http://www.aacc.nche.edu/AboutCC/Documents/FactSheet2012.pdf>.
- ²¹ Ibid.
- ²² <http://chronicle.com/article/Who-Are-the-Undergraduates-/123916/>.
- ²³ http://www.collegeboard.com/prod_downloads/press/cost06/trends_college_pricing_06.pdf.
- ²⁴ http://nces.ed.gov/programs/coe/pdf/coe_csw.pdf.
- ²⁵ http://nces.ed.gov/programs/coe/indicator_csw.asp.
- ²⁶ Attewell and Lavin, *ibid*.
- ²⁷ Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education.
- ²⁸ Aslanian, C.B., & Clinefelter, D.B. (2012). *Online college students 2012: Comprehensive data on demands and preferences*. Louisville, KY: The Learning House, Inc., and Education Dynamics.
- ²⁹ Allen, I.E., & Seaman, J. (2011). *Going the distance: Online education in the United States 2011*. Babson Survey Research Group and Quahog Research Group.
- ³⁰ Parsad, B., & Lewis, L. (2008). *Distance education at degree-granting institutions postsecondary institutions: 2006-07*. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
- ³¹ http://nces.ed.gov/programs/digest/d11/tables/dt11_196.asp.
- ³² National Commission on Adult Literacy. (2008). *Reach higher, America: Overcoming crisis in the U.S. workforce*.

- ³³ Aslanian, C.B., & Clinefelter, D.B. (2012). *Online college students 2012: Comprehensive data on demands and preferences*. Louisville, KY: The Learning House, Inc., and Education Dynamics.
- ³⁴ <http://net.educause.edu/ir/library/pdf/erm0342.pdf>; <http://cathysandeen.files.wordpress.com/2009/11/cher-sandeen-generations-fall-082.pdf>.
- ³⁵ Choy, S. (2002). *Nontraditional undergraduates*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
- ³⁶ Ibid.
- ³⁷ Berker, A., Carroll, C.D., & Horn, L. (2003). *Work first, study second: Adult undergraduates who combine employment and postsecondary enrollment*. Washington, DC: U.S. Department of Education, Institute for Education Sciences.
- ³⁸ Ibid.
- ³⁹ Cahalan, M., Lacireno-Paquet, N., & Silva, T. (1998). *Adult education participation decisions and barriers: Review of conceptual frameworks and empirical studies*. Washington, DC: U.S. Department of Education, Office of Education Research and Development, National Center for Education Statistics.
- ⁴⁰ Pusser, B., et al. (2007). *Returning to learning: Adults' success in college is key to America's future*. Lumina Foundation for Education.
- ⁴¹ Carnevale, A., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. The Georgetown University Center on Education and the Workforce. Retrieved from: <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/FullReport.pdf>.
- ⁴² Ibid.
- ⁴³ Soares, L. (2011). *Delivering innovation skills while wisely using public funds*. Center for American Progress; Osterman, P. (2008). *College for all*. Center for American Progress; Levy, F., & Murnane, R.J. (2005). *The new division of labor: How computers are creating the next job market*. Princeton University Press; and Alic, J.A. (2008, July). Technical knowledge and experiential learning: What people know and can do, *Technology Analysis and Strategic Management*, vol. 20, no. 4, 427-442.
- ⁴⁴ The Conference Board. (2006). *Are they really ready to work?*
- ⁴⁵ Presentation by Professor Michael E. Porter, Institute for Strategy and Competitiveness, Harvard Business School, at the Inter-American Development Bank, Washington, DC on November 18, 2002.
- ⁴⁶ Steigleder, S., & Soares, L. (2012). *Let's get serious about our nation's human capital*. Center for American Progress. American Community Survey Data for 2010 estimate that as many as 92 million are without a postsecondary credential. This estimate range includes all those with some college, no degree, high school diploma/GED, and who have completed grades 9-12 but have no diploma.
- ⁴⁷ Bosworth, B. & Choitz, V. (2002). *Held back: How student aid programs fail working adults*. Arlington, MA: FutureWorks, LLC.
- ⁴⁸ National Center for Education Statistics. (2002-03). *Participation in adult education for work-related reasons*; NCES, The Condition of Education Indicator 8.
- ⁴⁹ Ibid.
- ⁵⁰ The Aspen Institute. (2007). Sector initiatives and community colleges: Working together to provide education for low-wage working adults. Retrieved from: <http://www.aspeninstitute.org/sites/default/files/content/docs/07-009.PDF>.
- ⁵¹ Bosworth, B. (2007). *Lifeline learning: New strategies for the education of working adults*. Center for American Progress.
- ⁵² Carnevale, A., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. The Georgetown University Center on Education and the Workforce. Retrieved from: <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/FullReport.pdf>.
- ⁵³ Meister, J.C., & Morrison, J.L. (1998). E-learning in the corporate university: An interview with Jeanne Meister. *Corporate Universities: Lessons in Building a World-Class Work Force*. See also: McGee, P. (2006, May). Corporate universities: Competitors or collaborators? *The Journal of Human Resource and Adult Learning*. See also: Margolis, M. (2010, September). Corporate learning. *Newsweek*. Retrieved from: [Newsweek http://www.globalccu.com/images-2013/CU_Newsweek_20%20sept_2010-1.pdf](http://www.globalccu.com/images-2013/CU_Newsweek_20%20sept_2010-1.pdf). A corporate university (also referred to as a corporate college, corporate academy, or corporate learning center) is a centralized training or education function within a corporation focused on the integrated development of employees on a basis aligned with the corporation's values and business requirements.
- ⁵⁴ U.S. Department of Education, National Center for Education Statistics. (2002). *Defining and assessing learning: Exploring competency-based initiatives*. Washington, DC: Council of the National Postsecondary Education Cooperative Working Group on Competency-Based Initiatives.
- ⁵⁵ Ibid.
- ⁵⁶ Adapted from: Soares, L. (2012). *A disruptive look at competency-based education*. Center for American Progress.
- ⁵⁷ Edited version of interview conducted for this paper with the author's niece.