The rapid and extensive changes in higher education play out within a much larger, global context of change. Technology, globalization, mass enrollments in higher education, and the insatiable need of the global knowledge economy for educated workers is creating enormous pressures on higher education to adapt to meet the need.

Despite the enormous expansion of higher education across the globe, those who have access and who benefit are mostly those from the privileged classes. At the same time, globalization, migration, and disproportionate population growth are increasing diversity among prospective students not only in terms of ethnicity and economic standing, but also in terms of age and gender. This increasingly diverse student body creates pressure to put in place new systems for academic support and innovative approaches to pedagogy.

Two of the main challenges for any new approach to higher education are those of access and quality. Online technologies can address access issues for those who cannot attend classes in person. The rising cost of higher education, however, is a more vexing problem because regardless of how higher education is delivered, it is not accessible if most people can’t afford it.

For many, increased program quality is interpreted as better program outcomes, and what most students and employers want to know is what can those with higher education credentials do with the knowledge that they have.

In 2015, a group of top U.S. universities came together to develop a new model of accessible, affordable, and outcomes-based higher education to expand the panoply of academic opportunities available to students. The entity developed for this new model of education is called the University Learning Store, and the institutions that have partnered to create the Store are the University of California Irvine, the University of California Los Angeles, the University of California Davis, the University of Washington, Georgia Tech, and the University of Wisconsin-Extension. The latter serves as the managing partner of the consortium.

The University Learning Store launched in March 2016 with a small number of noncredit programs and a handful of students. The University Learning Store 2.0 will launch in October 2016 on a new platform, with significantly expanded content, and pathways to degrees.

### Focusing on alternative credentials

There are many kinds of higher education credentials in the U.S.: degrees, certificates, badges, continuing education units (CEUs), micro-credentials, industry certifications, etc., but there is no common denominator that runs through all of them. In general, the array of credential is bifurcated into two kinds: credit and noncredit. The main difference between the two is that the credentials carrying formal academic credit are sanctioned by the higher education regulatory processes whereas noncredit credentials are not. This gives credentials that carry the academic credit a status that is typically above those without it, and to the extent that the accreditation process is uniform and schools are willing to accept credits from other institutions, academic credit does serve as a form of currency.

Unregulated credentials, such as noncredit certificates and badges, are typically also based on time in the sense that students must spend time learning materials in order to earn the credential. The prototypical example of this is the CEU or continuing education unit. Typically, a student earns one CEU for every 10 hours that the student spends learning. As explained by the College Board,

*One CEU equals ten contact hours of participation in organized continuing education classes and/or training conducted by a qualified instructor. A contact hour is equivalent to one 60-minute interaction*.

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between an instructor and the participant\textsuperscript{4}. Just like the credit hour, the CEU is silent about the outcomes of the learning process, and because the CEU is outside of the regulated environment, there is no conversion to the credit hour unless individual institutions choose to invoke some kind of equivalency rule.

There are few alternatives to time as a proxy for learning, even though time spent learning is no measure of what a student actually knows. One contender for a new academic currency is competency. Since competency is by definition an ability to do something successfully, competency satisfies the outcomes goal of learning far better than time spent learning. Hence, if we could identify what it means to be competent across the academic spectrum in some sort of uniform way, then we would have a system that truly focuses on the outcomes of education. This system would also not divide credentials into credit and noncredit in the way that the credit hour does, since few would want to earn credentials that don't signify that the individual is competent.

The Lumina Foundation has begun a national conversation and a process called the Connecting Credentials framework. The framework uses competencies as common reference points to help understand and compare the levels and types of knowledge and skills that underlie degrees, certificates, industry certifications, licenses, apprenticeships, badges and other credentials. Competencies are understood both in industry and academia and can be applied in multiple contexts, making them a powerful unifying way to examine credentials\textsuperscript{5}. The process is in its infancy, and the task is daunting. In order for any framework like this to work requires the creation of a new currency based on competencies, and any such currency requires a common denominator. To date, there are no commonly accepted definitions of what is an academic competency, how big or small it is, or how it gets measured. There isn't even a clear set of definitions from which to choose. Whether the Lumina Foundation or another organization will be able to propose a new academic currency is yet to be seen, but so far it is the only viable alternative to the credit hour.

The University Learning Store is a competency-based venue

The University Learning Store rests on the premise that a credential is a useful indicator of ability to apply knowledge in practice only if the credential is based on clear evidence that the holder of the credential can do what the credential stipulates. Evidence of ability to apply knowledge in practice in the University Learning Store comes through authentic assessments. An assessment is said to be authentic if it tests a student's ability to apply knowledge in real-life situations. For example, an authentic assessment of a student's ability to develop a business plan is for that students to write a real business plan for an actual business.

The focus on assessments differentiates the Learning Store from other entities in this space. Many focus on content presentation, but provide little to no verification of competence via authentic assessments. The evaluation of the assessment is performed by content experts such as business faculty or by practitioners who have deep understanding of the work, such as consultants who work with new businesses to develop business plans. In either case, the assessor's role is to determine if the student is able to apply her knowledge of a discipline, skill, or process in an actual situation.

In the Learning Store, individual competencies are credentialed as verified competencies when students demonstrate competence through authentic assessments. Individual competencies can be combined or scaffolded to lead to larger abilities referred to in the Learning Store as verified competency certifications. These larger abilities are authenticated with summative assessments that test learners' abilities to apply the collective set of competencies in practice. For example, someone can be said to have mastery in communication if that individuals has successfully demonstrated competence in the ability to assimilate information, listen actively, and write and speak clearly about diverse disciplines to various audiences. An authentic assessment demonstrating mastery of communication might include a real presentation on a complex topic followed by an ability to clearly answer questions from an audience.

The University Learning Store is a Store

The University Learning Store is a department store-like venue for job-focused credentials. Analogous to a department store, one of the key benefits of the Learning Store is that it enables the learner to develop a customized learning experience -- customized to her career goals, needs, and abilities. Some of the items in the Store are modular, enabling students to combine various assessments and content in whatever ways they need. Other items are self-contained credentials that are authenticated through assessments reflective of the kinds of knowledge that reflect industry standards.

Assessments and content in the Learning Store are organized in three departments:

- **Power Skills** (or soft skills) includes topics to help students increase employability and work readiness such as communication skills, teamwork and collaboration, critical thinking, problem solving, etc.
- **Technical Skills** includes industry-specific, and in some cases job-specific, skills in information technology, business, healthcare, agriculture, sustainability, and other areas.


• *Career Enhancement Skills* includes topics such as leadership, public speaking, management, negotiation, and so on.

The primary focus of the Learning Store is authentic assessments because it is only through authentic assessments that students are able to demonstrate what they know. Authentic assessments are developed by one or more institutional partners in the Store and certified by faculty or content experts affiliated with or employed by those institutions. Students who have prior knowledge and experience and want credentials to certify that knowledge can purchase assessments to verify their knowledge. If students demonstrate competency, then they receive credentials corresponding to the areas in which they demonstrate competency from the institution(s) that develops and evaluates the assessments.

Students who need to learn new information are directed to both open and fee-based resources. When open resources are available, students have the option to reduce costs of their studies by accessing those resources; when open resources are not available, students may purchase learning materials and instruction from partner institutions in the Store.

Because the University Learning Store is highly modular, students are able to purchase only what they need. Costs are low. Verified competencies cost $50–$150, and most certifications consist of three or four verified competencies.

As version 2.0 of the University Learning Store launches in October, several tracks will be available to students who want to scaffold what they learn in the Store into degree programs. The University of Wisconsin System currently offers several competency-based degrees. The two-year University of Wisconsin Colleges (a single institution within the University of Wisconsin System with 13 campuses) offers a two-year Associate of Arts and Sciences degree that serves as a foundation program for any bachelor’s degree offered by any University of Wisconsin campus. Three baccalaureate degrees are offered by the University of Wisconsin Milwaukee campus: Bachelor of Science in Nursing; B.S. in Information Technology, and B.S. in Diagnostic Imaging. The latter is being converted to a more general B.S. in Health Sciences degree. In addition, a B.S. in Business Administration degree will be offered through the University of Wisconsin-Extension in Fall 2016. Students who begin their studies in the University Learning Store and choose to complete tracks in project management, supply chain management, or entrepreneurship will be able to convert those tracks into credits and use them toward graduation in the business degree program.

Of the institutions partnering in the University Learning Store, the University of Wisconsin-Extension is currently the only institution that offers competency-based degrees. Hence, applying credentials earned through the University Learning Store to degrees is for now available only through UW-Extension. However, as the translation processes from competencies to credits is developed, students will be able to transfer credits from the University Learning Store to degree programs at other institutions (within or outside of the University Learning Store consortium) under the same institutional requirements that determine the transferability of any academic credit. In other words, whether a course or credit transfers from one university to another depends on the receiving institution and its willingness to accept the transferring credits. Some schools are liberal about accepting transfer credits, others are restrictive. Based on individual, institutional, transfer policies, each institution will have to determine whether University Learning Store credentials are applicable to degrees offered by that institution.

**The big need**

Historically, the U.S. has had very high educational attainment levels compared to other countries. However, higher education attainment levels in the U.S. are growing at a below-average rate compared to other OECD and G20 countries. For example, between 2000 and 2010, tertiary attainment in the U.S. grew an average of 1.3 percentage points a year, compared to 3.7 percentage points annually for OECD countries overall. This adds to the growing concerns in the U.S. over economic competitiveness and maintaining its leadership status.

The concern goes well beyond the U.S. in large part because of the rise of China and India. *China and India, which enroll 30 and 12 percent of their age groups, respectively, are currently the world’s two largest academic systems. Their higher education systems will be expanding rapidly in the coming decades and may indeed account for close to half the world’s enrolment growth in 2030*.

In the United States, various solutions have been proposed to address the growing education/skills gap, i.e., the lack of sufficient increases in education attainment to meet competitiveness requirements of the knowledge economy. Solutions proposed range from making college free to awarding degrees retroactively to students who begin a program at one institution and finish requirements for that program elsewhere. For example, *Arizona’s Maricopa community colleges, which enroll more than 265,000 students a year, have received a half-million-dollar grant to track students who’ve moved on, and to automatically give them an associate’s degree if they’ve completed enough coursework*.

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7 Ph. Altbach, op.cit., p. 16.
It is not clear, however, how this adds to American economic competitiveness. Students who receive degrees retroactively or through a reorganization of credits already earned aren’t learning anything new. Hence, retroactive degrees might be symbolic of past learning, but retroactive degrees neither contribute to increasing educational attainment nor to increasing economic competitiveness.

Despite the value of these and other efforts, there is increasing skepticism that the education shortfall of workers can be met by the traditional higher education process. Although the number of students in college has increased nearly 25% from 2000 to 2015,9 as of 2013 only 40% of working-age Americans had at least an Associate Degree10.

Hence, new, bold solutions are required, and the national and global higher education markets will determine the winners and losers. The competitive advantage of the University Learning Store is that it provides the type of venue to which we have all become accustomed: shop at one’s leisure, buy only what you want or need, spend thriftily, and get real value for your money. The Store also has two other advantages. One is that it allows for high degrees of curricular customization so that students can tailor their learning experiences to their individual situations and needs. The other is that the focus of the store is on transparent and demonstrable student outcomes, or, in University Learning Store parlance, verified competencies. The verification process happens through authentic assessments, so unlike most programs that focus on instruction, students in the University Learning Store are free to learn from wherever and wherever they wish because quality assurance – demonstration of mastery – happens at the assessment level.

It is important to note that credentials are shorthand for skills, knowledge, and abilities. A credential is useful only if it accurately denotes the holder’s skills, knowledge and abilities and if it is understood and trusted by those who use the credential in evaluating the holder’s fit for a job or further study. Having the credential issued by a reputable provider, such as one of the universities partnering in the University Learning Store, helps address the trust issue. However, it does not address the intelligibility of the credential. That must be met through efforts to make the requirements for achieving the credential fully transparent so that employers and other stakeholders clearly understand what the holder of the credential had to do to achieve it. This in turn adds to the trust criterion by enabling the evaluator of the credential (e.g., employer) to determine if the process for achieving it was sufficiently rigorous and representative of the knowledge and skills that the credential represents.

Conclusion

Knowledge continues to be the primary driver of the global economy, and ever increasing levels of education are needed to remain competitive. There is no one ideal or best way to facilitate educational achievement. However, there are common elements to most significant attempts, including keeping costs low, using technology to overcome limitations of time and place, just-in-time learning that is malleable to individual students’ needs, and transparent and verifiable learning outcomes.

The University Learning Store is a recent effort by several top, public, American universities to help address the need for a more educated workforce while maintaining focus on high quality learning outcomes. The ultimate success of the University Learning Store and all other higher education efforts will be determined by the higher education market, and that market, in turn is highly dependent on an array of trends and changes across the globe that are far beyond the control of higher education.

References


10 Connecting Credentials..., op.cit.