Why IT Matters to Higher Education
EDUCAUSEreview

Improving the Signal-to-Noise Ratio of Postsecondary Credentials

by **Jonathan Mott** Monday, November 20, 2017

Key Takeaways

- Despite the widely acknowledged value of **traditional college degrees,** the options for **alternative postsecondary degrees continue to grow** — not least because a **traditional degree's meaning** in terms of the **knowledge and skills** of the bearer **often seems ambiguous**.
- Given this ambiguity, **some employers** have taken the once-unthinkable step of **removing a bachelor's degree from job requirements** — even for highly skilled, professional roles.
- Facing the **proliferation of degree and certification types**, issuing **institutions**, learning technology **vendors**, **and employers** must come together to **establish standards** and recognized practices for managing programs and **granting credentials**.

This is hard to admit for an erstwhile academic, but outside the halls of academe, the widely accepted *raison d'être* of colleges and universities is to produce graduates with degrees. A degree signals that an individual is prepared to pursue related graduate training or employment in given fields. That's the common assumption, anyway.

Degrees have long been deeply entrenched in the job market and economy. In some job markets, however, degrees are either not required or are insufficient. To

meet the needs of these markets, various nondegree postsecondary credentials have emerged. For many adults and their employers in these sectors, a *nondegree* credential signals employability and job readiness in a way that is more concrete and clear than with traditional academic degrees. This clarity is helping drive the increase in these "alternative" postsecondary credentials and the organizations offering them.

Nondegree Credentials: The Numbers and the Drivers

Recently released **US Department of Education** data indicates that 17 percent of high school graduates have some type of nondegree credential, as do 29 percent of those with some college credit but no degree.[1] Intriguingly, those with college degrees are more likely to have credentials in addition to their degrees: 42 percent of those with associate's degrees, 31 percent of those with bachelor's degrees, and 49 percent of those with graduate degrees have a postsecondary certificate, certification, or license.

The ambiguity of college degrees is perhaps the most significant driver behind the nondegree credentials' prevalence. As Jamie Merisotis, President of the **Lumina Foundation**, observed, "Despite a century of experience with higher education, our system tells us far too little about what a college degree or other postsecondary credential means."[2]

For example, when a university grants a person a computer science degree, it sends a vague, unreliable signal to the employment market. Even within the same institution, such a degree can imply a wildly different level of knowledge and skill sets, along with various mastery levels. The variation becomes even wider when comparing degree earners from different colleges and universities.

Some employers have taken the once-unthinkable step of removing a bachelor's degree from their job requirements — even for highly skilled, professional roles. Ernst & Young removed its degree requirement after an internal study showed "no evidence to conclude that previous success in higher education correlated with future success in subsequent professional qualifications undertaken."[3] Instead, the firm now relies on applicants' results on a strengths assessment and other online evaluations.

Ernst & Young noted that a degree will "remain an important consideration when assessing candidates as a whole," but that the lack of a degree will "no longer act as a barrier to getting a foot in the door."[4] One intended result diversifies the

applicant pool and workforce by allowing a broader group of qualified individuals to compete for open positions.

The Blurred Signaling Power of Postsecondary Credentials

Degree-granting institutions and their governing entities have done much in recent decades to improve the signal-to-noise ratio of their degrees. To meet accreditation requirements, for example, institutions must articulate and document the learning outcomes for every degree they offer. That is, institutions must map each degree to courses, other learning experiences, and assessments. More work remains to strengthen the signaling power of degrees, however, much of it involving the traditional methods used to signify the value of a degree.

The Trouble with Transcripts

Nonetheless, higher education has done little to send more specific, valid signals (that is, assertions about their learners) to the employment market. Instead, they simply refer potential employers to their students' transcripts. While transcripts contain significantly more data than a diploma, that data primarily lists activities rather than specific performance, knowledge, capabilities, or competencies.

Traditional transcripts indicate that a specific learner completed courses — labeled using opaque abbreviations such as "BUS ENG" or "INT CIV" — and received a particular number of credit hours and a letter grade. Although a staple of academic life, the transcript offers little to no value to employers evaluating a graduate's readiness and potential. For example, while participating in a 2015 White House convening on higher education and the "skills gap," I heard an HR executive from a large corporation observe that the transcript is all but useless to organizations such as his. "What," he asked the higher ed people in the room, "does a three-credit hours 'B' in 'BUS ENG' even mean?" Assuming the course's full name is "Business English," does completing the course mean that an individual can write? Read for comprehension? Communicate orally and visually? If so, what differentiates A, B, and C students?

The Fallout of Uncertain Signaling

Employers typically have scant knowledge of what potential employees know and can do. To determine this, they must put applicants through variously rigorous or haphazard processes. Once they make new hires, companies spend substantial time and money — about half-a-trillion per year — training these new employees

to fill their knowledge and skill gaps so they can perform effectively. These gaps and a college degree's poor predictive value underlie Ernst & Young's move to look beyond the degree. Indeed, the employment market shows a growing willingness to reject the college degree's hegemony as the only or even the most important job-readiness signal.

Potential college students are aware of these dynamics and increasingly skeptical about a degree's ROI. While longitudinal data continues to show that college degrees pay off, the perception that they might not has grown. According to a recent *Wall Street Journal* poll, 49 percent of Americans do not believe the expense of a four-year degree will pay off with "a good job and higher lifetime earnings."[5] The numbers are even lower among younger respondents, particularly young men. And these perceptions have had an impact: higher education enrollment has fallen for five consecutive years.[6]

Although these perceptions are exaggerated — and even inaccurate in the broader employment market — it isn't unreasonable for individuals to question a traditional degree as the best postsecondary path. While degrees do, in fact, pay off, their ROI has been flat since 2010. Jeff Selingo argued that this happened because of "the changing nature of work, with the skills needed to succeed on the job quickly evolving."[7]

This change does not mean that traditional degrees will go away — they're more important than ever. However, it does mean that postsecondary education providers must send better, more specific signals to the employment market. That is, they need to make explicit assertions about their learners' knowledge, skills, and abilities. As Selingo observed, the remaking (or at least the broadening) of credentials has already begun across higher ed: new degree types (such as micro-masters), nondegree credentials, and more granular learner assertions in traditional programs.

Improving Postsecondary Credentials' Signal Strength

As technology, automation, and artificial intelligence grow, the nature of work continues to transform. As such, institutions must dramatically improve the signal-to-noise ratio of their assertions about their learners through two rapidly evolving areas:

- New types of degree and nondegree program offerings

- A technology infrastructure that allows competencies to be mapped, tracked, and communicated by, for, and about individual learners

These changes will enable learners to own, manage, and curate their achievements, credentials, and related evidence.

Innovative Degree and Nondegree Programs

As noted, traditional degrees are here to stay. In fact, they are proliferating as demand for hybrid, interdisciplinary degrees grows in biotechnology, cybersecurity, predictive analytics, and a host of other areas. But demand is also on the rise for new "alternative" program offerings, sometimes associated with degrees, sometimes not. Some of the most innovative of these new offerings fall under the banner of *competency-based education*, or CBE. **The Competency-Based Education Network** (CBE-N) defines CBE as a program that

> *... combines an intentional and transparent approach to curricular design with an academic model in which the time it takes to demonstrate competencies varies and the expectations about learning are held constant. Students acquire and demonstrate their knowledge and skills by engaging in learning exercises, activities and experiences that align with clearly defined programmatic outcomes. ... Learners earn credentials by demonstrating mastery through multiple forms of assessment, often at a personalized pace.*[8]

In their purest form, CBE offerings grant degrees and operate outside the traditional time constraints of terms and semesters, measuring progress by competencies demonstrated rather than credit hours. Considered more broadly, CBE moves away from credit hours and letter grades toward more valid, authentic, criterion-referenced assessment of learners' knowledge, skills, and abilities, irrespective of how they acquired them or how long it took.

These *backward-designed*[9] programs begin with the targeted competencies, deciding how they will be validly, authentically assessed, and only then do they design the learning experiences that will help learners acquire those competencies. In addition to enabling a far more individualized path to a degree, the CBE model also enables learners to directly demonstrate attainment of specific competencies with higher granularity than traditional courses. This is why CBE programs are sometimes called *prove it* programs — that is, programs with clear, objective, valid, reliable mechanisms through which students can prove they have a competency. This approach also lets institutions make specific, discrete assertions about their

learners and reduce the signal noise they send about them to prospective employers.

In addition to CBE, institutions increasingly offer competency-based, nondegree certificate programs. Early MOOCs were groundbreaking here. Now, many institutions offer *micro-degrees* — that is, subsets of traditional undergraduate and graduate degrees that grant learners certificates, credentials, or badges when they complete the requirements. Micro-degrees vary in shape and size, but typically focus on one or two competencies within a broader program. For example, a micro-MBA might be a graduate HR credential that certifies that the individual has demonstrated a traditional MBA's HR competencies.

In addition to CBE and micro-degrees, continuing education and other alternative programs have proliferated. Many nontraditional organizations, such as code academies, boot camps, online training institutes, micro-credentialing providers, and professional associations offer a growing list of competency-aligned courses, credentials, and stackable credential programs. Many have created targeted, job-market-aligned certificates based on employment market data. These various approaches aim to validate individuals' specific competencies so they can more directly pursue their career and life goals. The programs also send the market unambiguous signals about their learners.

Competency Signaling Infrastructure

Whether they offer traditional degrees or nondegree credentials or badges, all learning and training institutions, learning technology vendors, and employers must come together to establish standards and recognized practices for managing programs and granting credentials.

The past few years have seen significant progress on this front. Institutions considering new degree and nondegree offerings should become familiar with this emerging infrastructure, which consists of four key components:

1. **Credential Registry**. This registry of credentials includes degrees, certificates, industry certifications, licenses, badges, apprenticeships, and micro-credentials. A centralized registry "enables job seekers, students, workers, and employers to search for and compare credentials, just as travel apps are used to compare flights, rental cars, and hotels."
2. **Open Badges Infrastructure** (OBI) specification. The OBI is an IMS Global specification for "information-rich visual representations of verifiable achievements earned by recipients." Standards-compliant badges allow

learning providers to make specific assertions about individual competency attainment. Learners can then share their badges with potential employers to make trustable claims about their capabilities.

3. **Competencies & Academic Standards Exchange** (CASE). The CASE is a standard format for describing and transmitting "information about rubrics, criteria for performance tasks" and (optionally, but importantly) their alignment with specific competencies. CASE also enables the electronic exchange of competency definitions between learning applications, systems, and institutions.
4. **Extended Transcript specification** (eT). The eT, which is in the final stages of becoming an official IMS Global specification, provides a mechanism for aggregating competency attainment assertions, badges, and other achievements in a new kind of transcript. Instead of listing courses and credit hours, the eT displays a person's demonstrated competencies and how they relate to each other (such as in a program context).

Together, these technologies and standards form the core infrastructure for registering credentials, granting verifiable badges for specific competencies, mapping competencies and assessments across tools and platforms, and aggregating and displaying learner competency achievements in a reimagined, official learning record. These more specific, granular assertions produce a stronger signal to potential employers than a degree.

Recommendations

Innovative approaches, programs, and credentials can help institutions send stronger signals about their learners to prospective employers. Now more than ever, institutions must carefully consider what they can and will assert about their learners. Traditional degrees and credit-hour transcripts remain necessary — but insufficient given the growing demand for specific, trustworthy information about an individual's actual competencies. Further, to avoid data silos and ensure that competencies can be shared across networks, postsecondary credentialing organizations must define standards and their implementation process as they map their way forward.

The nature of work evolves quickly. We must build on standards while remaining nimble, ready to innovate and experiment using as a foundation sound curriculum design practices and established technology and interoperability standards. We need this foundation to efficiently operate postsecondary programs in our

increasingly interdependent, permeable education and credentialing ecosystem. Most crucially, creating this seamless learning and credentialing environment will allow us to empower learners to manage their own educational careers and the competencies they acquire throughout their lives.

Notes

1. Stephanie Cronen, Meghan McQuiggan, Emily Isenberg, and Sarah Grady, ***Adult Training and Education: Results from the National Household Education Surveys Program of 2016***, NCES 2017–103, US Department of Education, September 2017.
2. Chris Havergal, "**Ernst And Young Drops Degree Classification Threshold for Graduate Recruitment**," *Times Higher Education*, August 3, 2015.
3. Jamie Merisotis, "**What Does a Degree Mean? It's Hard to Tell**," *The Hill*, June 1, 2015.
4. Lucy Sherriff, "**Ernst & Young Removes University Degree Classification from Entry Criteria as There's 'No Evidence' It Equals Success**," Huffington Post UK, April 8, 2015.
5. Josh Mitchell and Douglas Belkin, "**Americans Losing Faith in College Degrees, Poll Finds**," *Wall Street Journal*, September 7, 2017.
6. ***Current Term Enrollment Estimates — Spring 2017***, Research Center, National Student Clearinghouse, May 23, 2017.
7. Jeffrey J. Selingo, "**Students Have New Ways of Measuring Degrees pf Success**," *Washington Post*, September 17, 2017.
8. "**What Is Competency Based Education?**" Competency-Based Education Network.
9. Grant Wiggins and Jay McTighe, ***Understanding by Design***, 2nd edition, ASCD, 2005.

Jonathan D. Mott is the chief learning officer at Learning Objects, a Cengage company.

Competency-based Education (CBE), Credentialing