All Americans deserve a way to translate their full education, training, and work experience to a record of transferable skills that will open the doors to high-wage occupations and careers. The current education-to-workforce ecosystem results in skills being under-matched and/or mismatched for potential employment opportunities. Consider the learning that happens outside the lines of formal, four-year, for-credit education. Continuing education, competency-based education, and career and technical education programs provide a broad range of educational experiences—many happening on a not-for-credit basis—that are difficult to document on a traditional transcript. Having a record that documents these achievements and aligns with employers’ needs will clearly benefit not only community college students but workers and lifelong learners as well.

With a sense of urgency and immediacy, the National Student Clearinghouse is working with the US Department of Commerce’s American Workforce Policy Advisory Board, IBM, Western Governors University (WGU), Central New Mexico Community College (CNM), and IQ4 to address these issues. This group will develop a nationwide pilot to demonstrate an efficient, integrated solution and infrastructure that will empower learners to pursue and manage their education and their career.

Key to this pilot is the interoperable learning record (ILR). An ILR is a verifiable record of a person’s achievements in education or training processes, formal or informal, classroom-based or workplace-based. Serving as compilations of peoples’ traditional and nontraditional learning experiences, ILRs can be interchangeably shared between education providers and businesses. ILRs can provide the exchange of information from school to school, school to business, business to school, and business to business.

Ideally, an ILR should be flexible enough to identify when a learner’s skills don’t match those that employers are seeking and how learners might close the gap. An ILR should provide a trusted, validated, privacy-protected pipeline for businesses to find talent based on skills and competency levels. Aside from the technical and skills-based work that is required, part of the road to interoperability is understanding how privacy rules, such as the Family Educational Rights and Privacy Act (FERPA), may need to evolve to ensure that privacy is not trampled in pursuit of an ILR infrastructure.

In September 2019, the American Workforce Policy Advisory Board released a white paper on ILRs, describing the need to translate all education, training, and work experience to a record of transferable skills. To surmount the challenge of a standard platform and language and the definition of education, an ILR requires four characteristics.

1. Understandable and Consumable Content

Over the last several years, the American Association of Collegiate Registrars and Admission Officers (AACRAO) has been involved in defining a comprehensive learner record (CLR). AACRAO has been helping schools understand and embrace the fact that learning is represented by more than the traditional academic transcript. Institutions, employers, policymakers, and others need to understand learning outcomes on a nationwide scale. The CLR content is not easily consumable by industry, and industry-generated content is not easily consumed by education as part of a skills-based continuation of a learner’s journey. Understanding the data standards required by human resource information systems, as well as the definitional standards around skills, is essential in order to enable school-to-business, business-to-business, and business-to-school portability. Part of this challenge is linked to the need for open standards for data and skills taxonomies as part of a solution. Open standards allow for systems that read, compare, and share information inside a credential.

2. Reliable Data

Tomorrow’s learning transcript needs to capture learning wherever and whenever it happens. Today, recognition is being provided in increments and artifacts, such as badges, awarded for those outcomes. Learners will need a universal, interoperable credential wallet to compile their record of reliable, understandable data. The credential wallet will hold artifacts that have been earned and are available in one, verifiable place. Recently, the Clearinghouse launched Myhub as a universal, credential wallet, and institutions such as Johns Hopkins University and Western Colorado University are utilizing it. But these days an individual’s learning is extending well beyond their traditional higher education. Additional types of data will need to be verifiable and interoperable with other learning records in a single container (wallet).

3. Controllable Data

The data needs to be controllable by both the issuer and the learner. The issuer of a digital artifact must be able to modify or resend an artifact. The learners, who have a right to that artifact,
must be able to share their record with anyone they choose. This self-sovereignty of the learner to manage the utilization of an artifact is a significant key; however, the genuineness of the artifact is always in control of the issuer. Furthermore, errors of omission on the part of the learner when a complete record is required need to be addressed in discussions about self-sovereignty.

4. Adoption at Scale
It is going to take time to adopt an ILR process, and that adoption will require multiple technologies. Only a small fraction of the more than 164 million workers in the United States currently have artifacts on an ILR platform, according to the Federal Reserve Bank of St. Louis. A universal approach will be required for adoption, which will be based on how both education data and workforce data come together within the context of a privacy framework.

A Cybersecurity Pilot
A nationwide pilot is underway to demonstrate how issuers can align skills-based learning outcomes to cybersecurity credentials and cybersecurity jobs. This pilot will focus on leveraging several areas: the National Institute of Standards existing cybersecurity skills taxonomies that are tied to open standards and course-based, skills-based learning outcomes at WGU and CNM; the cybersecurity pilots in the New York City area through iQ4 (creator of the pathway and pipeline engines); the universal, credential wallet created by the Clearinghouse (Myhub); and the IBM learning credential network blockchain. The pilot will showcase how skills taxonomy interoperability can be demonstrated, how a universal wallet can be used by the learner to aggregate and curate these skills and learning outcomes, and finally how a compass (pathway and pipeline functionality) can be used by learners, employers, and educators—through analytics—to find and assess qualified cybersecurity candidates; determine gaps in skills and curriculum for learners, academic institutions, and employees; and facilitate career paths into the cybersecurity field.

Governance and standards of the interactions between job seekers, learning providers, and employers are the interoperability lynchpins that will be front and center during these efforts. The pilot’s goal is to identify the components, stakeholders, and patterns required for replicability across a range of careers and industries. The development of the pilot will be led by IBM in collaboration with WGU, CNM, the Clearinghouse, and iQ4. The Clearinghouse will also provide data sets and will integrate the prototype with its Myhub offering. Myhub will be enhanced to include institutional skills-based pathway engines along with industry-facing, skills-based pipeline engines. Interoperability will be demonstrated by WGU and potentially several other education entities, as well as an integration into applicant tracking and human resource information systems.

The Clearinghouse’s Role
The Clearinghouse is relying on its long history as a trusted, private, and secure entity for a learner’s educational and associated artifacts. The Clearinghouse’s goal is to provide a one-stop shop that benefits learners, education institutions, and employers. The Clearinghouse’s work in the industry credential areas is expanding its data collection beyond traditional education to the benefit of learners, schools, and workforce-certification entities.

As community colleges across the nation have known for quite some time, the comprehensive definition of education must include all forms of learning as a growing expectation of how education will support the workforce of the United States. Throughout higher education, there is clear recognition of the imperative to help learners and alumni represent themselves in the best and most complete manner. This gives learners unprecedented ability to succeed on their journey. Colleges and universities across the country are seeking a cost-effective service that puts their learners on an equal playing field with their credentials and artifacts. Additionally, numerous institutions are curious about blockchain and how this technology is going to mature. As pilots and other projects proceed, the Clearinghouse will be involved in multiple conversations with those in industry, education, and government to discern how it can perform a nationwide service while always protecting student data.

Next Steps
The single biggest struggle that companies, large and small, have today is finding the right person with the right skills at the right time. A national ILR infrastructure will allow learners to match their skills and their attainment to roles and positions they are pursuing. Simultaneously, it will allow employers to better understand the skills they require and develop a new view toward recruiting and managing talent. To achieve this vision, higher education will need to reimagine how it documents the achievements of traditional and nontraditional learners.

According to the Clearinghouse Research Center, the number of Americans who went to college and did not complete any type of credential grew from 29 million in December 2013 to 36 million five years later. “There is an opportunity to bring these learners back into the education continuum. IBM, WGU, CNM, the Clearinghouse, and iQ4 have a collective goal to create, develop, and deploy this work as an extensible national utility enabling everyone to take advantage of its capabilities. We look forward to working with employers, credential issuers, and higher education institutions on a national ILR to empower learners to pursue and manage their education and their career across their discipline of choice. ■

Note

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