RECOGNITION OF PRIOR LEARNING IN THE 21ST CENTURY

Learning Recognition and the Future of Higher Education – A Vision for a Post-Pandemic Learning Ecosystem

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This brief is part of a broad landscape analysis focused on policy and practice issues related to the recognition of prior learning and is published by the Western Interstate Commission for Higher Education, with funding from Lumina Foundation and Strada Education Network. The landscape analysis focuses on issues arising in the practice of the recognition of prior learning, policies that encourage or limit its adoption, and key research needs and future directions for the field. To see the full series of briefs, as well as original research completed by the Council for Adult and Experiential Learning on the outcomes of PLA recipients, please visit wiche.edu/recognition-of-learning/.

Introduction

Today's students can progress toward postsecondary credentials of value with what they already know and can do. Here's one example of how prior learning assessment can help students accelerate toward a degree:

> *"Ted" originally learned drafting in high school and took some time off before college to earn money for tuition. He worked for a local manufacturer and, as part of his day-to-day job activities, taught himself 3D modeling. When he decided to go back to school in his mid-50s to get a degree in industrial engineering, he looked at the various course descriptions and very clearly saw that a lot of what he already knew was outlined in the course descriptions and expected learning outcomes. He used the portfolio assessment form of PLA to earn credit in*

Key Highlights of this Brief

▶ The future of higher education will require greater alignment between learning and the workplace, a sharper focus on addressing issues of equity and inclusion, and effective strategies to customize learning for student needs. Each of these characteristics will be supported by tools and strategies that recognize and value learning regardless of how or where that learning is acquired.

▶ Recognition of learning will need to be more efficient, effective, and equitable – and will need to leverage technology in new ways.

▶ Key considerations will be how to change institutional culture to be more supportive of these changes; how postsecondary and workforce can align learning expectations; how postsecondary funding models can support flexible and less transactional forms of learning recognition; and how workforce and higher education data systems and funding streams can be more integrated.

> *parametric modeling that helped him earn an associate degree from his local community college. He went on to earn a bachelor's degree in information technology a few years later.*

This is a great example of how colleges can help students draw on what they already know and have that count toward their educational goals. But today's forms of PLA are not much different than what adult-focused colleges offered 40 years ago. How could we think differently about PLA and the recognition of learning as we look to the future of higher education?

The COVID-19 pandemic has disrupted life across the globe, changing how people work, live, and learn. It has also highlighted the disparities in equity across education and work. Higher education was already on a course for significant transformation in how learners access instruction and how academia connects to the working world. There have been decades-long trends in reduced public investments (and related increases in tuition prices), significant shifts in student demographics, heightened public concerns about student persistence and completion rates, greater concerns toward equity, advances in new learning technologies, and reduced investments with increased requirements by employers in workforce training and talent development – and conditions that had been driving higher education to rethink how its traditional model was not well designed to enable students to meet today's workforce demands. No longer was it enough for higher education to create and disseminate knowledge. A new expectation from public officials, employers, and the general public had already been forming: That colleges and universities should be preparing students for long-term success in an ever-evolving labor market.

In response, there were already some shifts within higher education to advance new models for how learning is defined, valued, delivered, credentialled, and supported. The focus was on connecting and integrating work and learning, bringing workplace experiences into the classroom, and ensuring that students can apply their academic learning to real world contexts. More institutions were identifying strategies to expand access to working learners and underrepresented populations, while ensuring that all students can succeed. There were new forms of credentials emerging: short-term, competency-based, and stackable. And recognition of learning acquired outside of the institution – through prior learning assessment, competency-based education, or other strategies – began to be more widely accepted.

Now higher education needs to think about even greater and more accelerated shifts due to global health and economic crises resulting from the coronavirus pandemic. The massive disruptions to higher education in Spring 2020 caught everyone by surprise, and nearly every institution with face-to-face instruction quickly moved to some form of learning at a distance. To be sure, the rapid move to distance-friendly formats likely did not follow accepted quality standards for online instruction, but one lesson from this experience is clear: postsecondary institutions now know that crises like these are possible, and postsecondary institutions will need to be better prepared to be flexible, agile, and mobile in the future. This will be even more important as the country works to rebuild the economy, including preparing massive numbers of unemployed Americans for new jobs.

All of this lays the groundwork to envision a new kind of higher education model, one that is more agile and responsive to an unpredictable world of ever-evolving skill and credentialing needs. This vision both necessitates and helps to generate new ways of defining, delivering, assessing, and recognizing learning. Whether called prior learning assessment, credit for prior learning, competency-based assessments, or recognition of learning, these methods help students save time and money as they progress to successful credential completion, and they appeal to institutions wanting to add to their credential completion toolbox for the adult working learner.

Learning Recognition is a term used for various methods of valuing the learning that takes place outside of formal educational institutions, but that can be assessed in order to count toward various credentials including degrees. The term includes various types of learning assessment approaches such as prior learning assessment portfolio, credit by exam, competency-based education, and competency-based assessment.

There are many perspectives about the precise contours of this new vision. This brief builds on the work of other authors in this series,[1] drawing on conversations with several leaders of change within the higher education landscape to capture what some of those contours are.[2] We asked

these leaders to share their visions for what a future higher education model could – and should – look like in order to reflect the realities of the changing world of work while taking advantage of advances in technology-based tools and our growing understanding of how people learn. Many common themes emerged, most notably that higher education will need to:

● ensure greater integration of learning and work throughout our lives,

● develop new pathways to bring equity closer to our communities by expanding access to under-represented populations, and

● emphasize greater personalization of learning experiences.

In many parts of higher education, this emerging common vision may seem like a pipedream. The status quo has had remarkable staying power, and the focus right now (rightly so) is to solve immediate issues caused by the pandemic. Yet, change has been indeed happening – and may now happen more quickly in the wake of the 2020 crisis. We had already seen movement toward this vision in key pockets in the higher education landscape. This brief explores how these evolving changes have been cultivating a culture more accepting of learning recognition practices. The pioneering practitioners of new learning models have seemed more eager than ever before to identify ways to incorporate the recognition of all learning, regardless of how that learning is acquired, as part of students' overall educational experiences.

In addition, the growing acceptance of learning recognition practices has been contributing to new ways of thinking about how systems value, assess, credential, and transcript learning. As external knowledge and different ways of knowing become accepted into the academy, challenges to the status quo arise: What knowledge can be recognized? Who has access to learning recognition opportunities? How does the knowledge fit into or shift the curriculum? How is this knowledge credentialed? These and other questions are helping to push higher education to rethink its identity, purpose, and delivery models.

Adapting to Changing Environmental Pressures: A Vision of the Learning Environment of the Future

One of the main challenges to higher education is how to contribute effectively to the talent development of tomorrow's workforce. The economic environment was already unpredictable prior to the pandemic, with the effects of globalization and technology requiring continuous upskilling and reskilling to meet dynamic changes in industries. Technology has permeated every occupation, rendering some to be phased out or reconceived, while necessitating newer ones to be created at a fast clip.

At the March 2017 Institute for the Future (IFTF) meeting, experts estimated that 85 percent of the jobs in 2030 had not yet been invented.[3] While this is an estimate (and somewhat disputed), the point is this: Tomorrow's workforce will be fundamentally different than today's, and higher education needs to implement strategic ways to prepare people for constant, rapid changes in skill, competency, and credential requirements.

As McGowan and Shipley have noted, our existing model of higher education's presumed purpose of "codifying knowledge into a curriculum, then transferring that pre-determined knowledge to accepting students so that they can become productive workers, can't support a rapidly changing world where new knowledge is continuously created and new skills are required to capture opportunity."[4] The economic fallout from the pandemic is likely to accelerate that kind of business transformation. As McGowan noted, "Where we once saw the future of work unfolding over years, we now believe that with coronavirus as an accelerant, everything we've predicted about the future of work will unfold in months."[5]

Postsecondary institutions and other providers in the learning ecosystem need to learn how to adapt quickly to a changed environment by helping students build upon their existing knowledge and skills, while helping them connect and deploy new knowledge and skills throughout their lifetime. At the same time, students not only need the skills and abilities to compete in today's workforce and continue their education, but also adaptability so that they can quickly develop new competencies the workplace requires. Students who can develop

and demonstrate a combination of technical and human skills (e.g., communication, teamwork, critical thinking) will be the best prepared for the future of work.[6]

That future is upon us — and we need a very different kind of learning ecosystem that will support individual learners to upskill and reskill constantly in order to navigate the world of work, continually learn, and be successful in their lives. This new ecosystem will need to integrate learning and work, be equitable and inclusive, and be centered on a student's individual learning and competencies. It also must leverage technology in new ways to improve efficiencies and affordability.

To make all of that a reality, the role of learning recognition (e.g., prior learning assessment or competency-based education) moves center stage as a key protagonist. Throughout the remainder of this brief, we describe the importance of the above-referenced components for that new ecosystem: integration of learning and work; equity and inclusion, the centering around a student's individual learning and competencies, and, woven throughout, the leveraging of technology in new ways to improve efficiencies and affordability. In each section, we outline how learning recognition is both a key building block and important driver of change.

Integration of learning and work

Our current educational system – and society in general – assumes that there is a time for learning and a time for work. Although recognized as being related, learning and work are treated as separate functions and sequential: first a short period of learning occurs early in life, which is then followed by a long period of work (sometimes with additional short-term professional development and/or academic graduate or professional program engagements). Both industry and education typically leave the integration of learning acquired through both environments to be the responsibility of the student, instead of viewing work/school integration as a shared responsibility.

For most students, regardless of their socio-economic, cultural, or ethnic backgrounds, the connections across what they learn in school, work, and life are not always clear, even if they are working and learning at the same time. Students create interconnections across their learning based on

their own experiences and sometimes relationships across common, field-specific knowledge may not be made. Students whose experiences and social networks are limited are also at a further disadvantage in making these important connections to understand their learning in different contexts. Instead, educators and employers can provide guidance to students to create linkages across their knowledge base.

The role of higher education in helping students making these important connections must be much more explicit. Faculty and other instructors need to articulate and model for students how to build connections across and transfer knowledge into different and novel contexts. This will be a change for many in faculty roles, and it may be critical for them to establish partnerships with employers to facilitate this curricular shift. As Lumina Foundation's Jamie Merisotis articulated during the early days of the pandemic disruptions to our economy, "Work and learning are becoming inseparable, and more will be expected of colleges and universities, workforce training programs, and employers."[7]

Prior to the pandemic, we witnessed numerous examples of higher education responding to changes in the workplace and the labor market. In late 2019, a consortium of organizations and community colleges announced a collaboration called Unmudl to provide a "one-stop work+learn marketplace" to help local employers train current and potential workers.[8] Ad Astra and Emsi are partnering to provide colleges with a course scheduling tool informed by local labor market data so that course offerings will prepare students for in-demand careers.[9] IBM has created numerous models for badging critical competencies; one partnership with Northeastern University is designed to award badges that serve as digital transcripts of learning that count towards graduate degrees.[10] The company has also worked to reinvent the secondary to postsecondary transition through P-TECH, a program for grades nine through 14 that enables students to combine learning with work experiences to develop skills, with the outcome a high school diploma coupled with a no-cost two-year postsecondary degree in a STEM field.[11] And Google developed its own IT certification program to be offered at 100 community colleges.[12]

As greater awareness for work/school learning integration spreads, pragmatists in higher education have already started to modify academic programs to align better with the needs of the workplace

and provide more work-related experiences: more professional programs articulating workplace competencies and more liberal arts degree programs incorporating 21st century and career-focused competencies into their models. Such examples are a significant start, but the integration of learning and work cannot be offered on the fringe or in small numbers. A bigger, more pervasive shift is needed.

The learning ecosystem of the future will be one that allows individuals to move much more seamlessly between work and learning, preparing individuals to transition careers many times over. Acknowledged in Educational Design Lab's *The Learner Revolution*, as people change jobs and careers with greater frequency, "along the way, they are going to need to cycle in and out of education for advanced training or retraining."[13] Or, as explained during an address at the 2019 CAEL conference by Van Ton-Quinlivan, then representing the Institute for the Future, traditional higher education was seen as an "inoculation," and now we are starting to recognize that what we really need is a system of "booster shots."[14]

A New and More Collaborative Approach to the Curriculum

The learning ecosystem must provide **a new kind of curriculum** that is designed to support a lifetime of cycling in and out of education (Harvard University's Hunt Lambert has coined this the "60-year curriculum".[15] This new curriculum needs to help students keep up with changing skill requirements, and be delivered in ways that fit students' working lives and their continuous accumulation of knowledge. Even today, students routinely juggle family, work, and community commitments, regardless of their age. This challenge is exacerbated by COVID-19. The Center on Education and the Workforce at Georgetown University estimates that 70 percent of college students, regardless of age, work (many full-time) while studying.[16]

Learning opportunities should be designed with easy on- and off-ramps and in modalities that provide those "booster shots" of learning with minimal (or no) disruption of work lives. As noted by the Institute for the Future of Work, these "booster shots" can take the form of targeted programs that focus on the precise skills learners need, while also providing opportunities for hands-on practice.[17] Technology

will play a big role in these modalities, not only for delivery, but also to enhance and accelerate the learning experience through adaptive learning methods. Notes Lumina Foundation's Merisotis,

> *We can no longer think of education and training as separate types of learning that should never meet or be reserved for certain people and not others. Education should prepare us for the changing nature of work. Training on and off the job that engages us over our entire lives should equip us with the skills most relevant to finding and keeping meaningful work. Such a shift will mean greater use of high-quality online learning that meets the needs of today's students, many of whom are working full time, supporting families, or are the first in their families to receive an education after high school. The shift will mean more pathways to credentials of value, whether these are college degree and certificate programs, industry certification programs, or options we have yet to imagine.[18]*

In many ways, learning recognition will drive these changes in postsecondary curriculum and help to bridge learning between education and work. Curriculum that can recognize all types of learning will also be shaped by that learning. As students cycle into (or *back* into) higher education from the workplace, their increased work experiences bring knowledge and skills – sometimes on the cutting-edge – from industry and other experiences that do not exist within contemporary academic curriculum. Students can also have experiences that supplement what is taught in current courses, even if not equivalent to a full course.

For example, a course in interpersonal communications provides theories and opportunities for practice but may not fully expose students to the types of real-life communication experiences that people encounter on the job or in their lives. This new learning ecosystem, then, will need to value – and recognize – the learning that results from those experiences. Curriculum that is flexible, modularized, and competency-based will support greater recognition of experience-based, extra-institutional learning for portions of or complete courses. The purpose of curriculum moves from delivering a well-defined, rigid set of knowledge constructs to recognizing and credentialing knowledge, skills, and workplace competencies, regardless of its source.

Making Sense of the Terms

For many decades, institutions and organizations have used terms like *prior learning assessment* and *credit for prior learning* to refer to the family of methods used to evaluate learning that is acquired outside of the college classroom. This series of briefs is using the term *recognition of learning* to acknowledge other strategies for valuing such learning, including competency-based models in which a student can draw on their existing knowledge to demonstrate required competencies. This article occasionally uses terms like *prior learning* – even though it is often viewed as a limited term – to reference the knowledge and skills a student brings to postsecondary learning that may have been acquired from a range of experiences, whether within or outside of formal postsecondary studies. Other terms the authors use to capture this concept are *learning from experience*, *extra-institutional learning*, and *externally acquired learning*.

This requires a mind-shift regarding the relationship across faculty (and other instructors), students, and industry. Students no longer singularly play the role of knowledge receiver but may also be the knowledge holder, knowledge validator, or even co-partner in knowledge creation. Business and industry are partners also, sharing insider knowledge (including knowledge developed through employer training) while integrating the knowledge flowing in from postsecondary education. This will be a major shift for higher education faculty, in both their role and in their identity. Faculty will need to expand its views of the sources of knowledge and understand the different but essential role that faculty has as a guide to knowledge acquisition and integration.

A Different Credentialing Model

A system focused on the integration of learning and work requires new ways to credential learning. The system will need to package curriculum to maximize flexibility, offering **short-term, industry- and employer-endorsed credentials** that build on each other and provide greater transparency on what individuals know and can do as they progress through work and school. The current tiered system of certificates, associate, bachelor's, master's, and doctorate degrees are not serving as effective

signals for the competencies that individuals develop during their time in higher education, nor do they systematically capture learning acquired along the way to a degree or from outside of the academy (e.g., industry professional association-awarded certifications). Packaging learning content into credentials that meet specific learning needs – rather than meeting arbitrary two-year or four-year length requirements – will help to make better use of students' time while making postsecondary learning more relevant and affordable. Clear credentialing pathways are needed to help students understand how to acquire and connect a myriad of credentials into coherent and cohesive documentation of their learning over a lifetime.

A new system of credentials needs to capture and recognize not only formal instruction, but also work-based learning and the many other forms of extra-institutional learning from an individual's life experiences and learning opportunities. Learning recognition of this manner spans all aspects of a student's life and requires much greater work and learning integration. A truly integrated learning ecosystem will allow individuals to learn both how learning spans educational institutions and work and how their recognized learning fits into an integrated schema.

A New Way to Codify and Assess Learning

Methods of recognizing learning need to change to be more effective and efficient. They should be redesigned around a **common language for defining and assessing skills and competencies**, in order to maximize the portability of learning between the two worlds of academia and work. Michelle Weise, formerly of the Strada Education Network's Institute for the Future of Work, calls this common language a "modern-day Rosetta Stone" that will "translate and decode the intersection between postsecondary education and the workforce."[19]

In addition, there should be **efficient and authentic assessments and validation of acquired skills** – again, leveraging technology-driven enhancements to provide cost and time savings. There should also be clear maps from an individual's skills set to postsecondary and occupational credentials and opportunities.

Defining a common language will not be easy work and potentially has the danger of establishing standardized learning goals that loses the flexibility and transparency we are trying to establish. The common language will need to be co-developed by education and industry and address those competencies and skills. Even the terms "competencies" and "skills" create distance between our worlds. Higher education is in the initial stages of thinking more about competency-based outcomes rather than seat time-based measures of learning, while many employers are more accustomed to talking about "skills."

Thankfully, we are not starting from square one to get there. Over the years, much work has been done to identify the competencies needed to be successful in the workplace as well as in higher education , such as the U.S. Department of Labor, American Council on Education, Association of American Colleges and Universities, Lumina Foundation, and Institute for the Future. In addition, **competency-based curricular frameworks**, such as Lumina Foundation's Degree Qualification Profile (DQP), and the Corporation for a Skilled Workforce's Connecting Credentials Framework have evolved to help shape and incorporate competencies into the curriculum. These competency frameworks move away from thinking of competencies as something that gets checked-off, but rather to think about competencies as a complex schema that interrelates learning an individual has acquired from diverse sources.

Learning recognition will help shape this new generation of curriculum, credentials, and assessment. As learning recognition opens the doors for more learners and the curriculum becomes more flexible, higher education will need to focus on personalized learning and competency attainment.

Equity and Inclusion

Statistics on educational attainment reveal deep inequalities for various populations, particularly along race, ethnicity, and class lines. This lack of attainment prevents different equity populations from accessing employment. Since 1980, occupations requiring a higher level of education and experience grew by 68 percent, while occupations requiring less preparation increased by only 31 percent,[20] and U.S. Department of Labor data show that nine out of 10 new jobs go to those with a college degree.[21] While some of this growth may be due to the upcredentialing of jobs that have historically not required a four-year degree,

inequalities in educational attainment for African-Americans, Latinos, and other groups nevertheless help entrench many structural barriers to economic equality and mobility.[22]

The vision for a new system of higher education must be one that is inclusive, giving all students access to continuous learning opportunities and the support students may need to succeed. **Assessing and valuing extra-institutional learning** – if available to and used by all students equally – can position higher education to be more inclusive and egalitarian by opening access and valuing different paths to knowledge and ways of knowing. When curriculum is well-defined, it draws a box around itself that excludes any externally acquired knowledge, and thus the people with that knowledge, regardless of whether college-level and appropriate for the field. Learning recognition, on the other hand, must be source and owner agnostic.

Originally developed as part of a social justice movement within higher education, the various methods of recognizing learning – particularly PLA – began with an equity perspective. These methods were designed to recognize and validate knowledge gained outside of the academy in order to expand access for individuals traditionally left out of the higher education system. The early PLA equity agenda focused on both who could attend higher education and what knowledge could be recognized.

The knowledge question is intricately entangled with access. When someone's learning is not valued or recognized, they themselves cannot be fully valued or recognized as the learners they are. Thus, when externally-acquired learning is narrowly recognized within the academy, or when some institutions offer robust models for learning recognition but others offer few options (or cannot offer lower-cost options for assessing externally-acquired learning), large student subgroups may not have equitable access to higher education. As noted in a new paper on equity-focused assessment, "an assessment process that is not mindful of equity can risk becoming a tool that promotes inequities, whether intentional or otherwise."[23]

Even when learning recognition exists, many students are uninformed about the opportunities, which marginalizes some students with unrecognized knowledge.[24] This can contribute to the larger problem of disparities in educational attainment. In a forthcoming study of PLA usage and impact by CAEL and WICHE, researchers found

that credential completion was significantly higher for adult students with PLA credit, compared to adult students without such credit. And while few adult learners (10.5 percent) at the participating institutions earned credit through the various assessment and recognition methods available to them, the lowest usage rates were by Black adult students (5.9 percent).[25] Institutions have the responsibility to ensure students have access to and are aware of learning recognition opportunities. Until the validation of external learning has affirmative evidence that individuals are able to access it equitably, there still is work to be done on the equity front.

The future of learning recognition must be grounded in the values of access and fairness, and be attentive to any learning, regardless of how or where it was acquired or who has acquired that knowledge. Recognition of learning practices should not privilege any single group of students or one type of learning over another, and solutions for improved equity and inclusion should address affordability, academic support, advising, discriminatory practices, and wrap-around services and resources that ensure all students have equal opportunities to use prior learning within their academic programs. Policies, practices, and outcomes should be carefully evaluated with an equity lens to make sure they live up to their promises.[26]

In the future ecosystem, knowledge "from outside" an academic environment will no longer have second- or third-class status.[27] By giving respect, recognition, and value to diverse sources of learning and a diverse student body, the new educational system will have the resources, tools and processes needed to accept and support all learners. This is more important than ever, as students of color are disproportionately negatively impacted by COVID compared to their White peers.[28]

Centered around the Individual Student's Learning and Competencies

As learning recognition opens the doors for more learners and the curriculum becomes more flexible, higher education will need to focus on personalized learning and competency attainment. This will be reflected in greater recognition of different sources of learning as well as in new kinds of flexible credentials, as described earlier. In addition, with sources of learning available in new and more

accessible formats, students can choose the learning they need and when they need it. Individuals' learning from school, life, and work will be integrated and co-recorded in some type of iterative, digital, and portable portfolio or comprehensive record. Learning will be assessed at the competency level. And technology will help to make more of these innovations possible, while potentially allowing students to save time and financial resources.

Individual access to knowledge has exploded in recent years, and it is likely to accelerate even more as educational providers recognize the need to be better prepared for crises like COVID-19. With the expansion of open source materials, alternative educational experiences (e.g., MOOCs, bootcamps),[29] and general information and "how-to" guides easily obtained through the Internet (YouTube videos, podcasts, and crowdsourcing platforms like Reddit), the individual has the ability to learn (often at low or no cost) about anything of interest. In the wake of COVID-19, more individuals may be increasing their own comfort levels with using online platforms for communication, work, and learning. A recent national survey conducted by Strada found that interest in online options for postsecondary education and training increased from 42% of prospective students in early 2019 to 48% in March and April 2020.[30] Another survey conducted by Strada between March and July 2020 found that three in 10 Americans said that "even if COVID-19 was not a threat," they'd prefer an online-only learning option.[31]

The role of higher education in knowledge acquisition shifts to helping individuals understand how to make sense of, evaluate the credibility of, and make connections across the knowledge and skills gained from personal study and research, experiences, and work. This means that as faculty recognize and verify external learning, they also must play a greater role in mentoring students through the vast information maze. They must help them integrate externally acquired learning into the curriculum while helping them make connections between formal instruction-based learning and learning in the world of work.

Comprehensive student records are not just a concept anymore– they are currently being developed and piloted. For several years, various organizations and institutions have experimented with skill "passports," e-portfolios, or "universal transcripts" that improve upon our current system of college transcripts and employment resumes. For

example, IMS Global is piloting the standards for a Comprehensive Learner Record,[32] and BlockCerts is an open source platform developed by the MIT Media Lab and Learning Machine.[33] These efforts are capturing college coursework, extra-curricular activities, externally acquired skills and knowledge, and work experiences in one digital tool or platform. In the educational ecosystem of the future, the universal record – benefitting from a common language for skills and competencies (described above) – will capture recognized and validated learning that takes place in the classroom and externally-acquired learning from a range of sources: extra-curricular activities, work experiences, military training and occupations, caregiving and other family experiences, self-study, and every other context in which an individual may acquire skills. A comprehensive digital record, with the ability to recognize any and all learning regardless of context or source, will allow for greater seamlessness between learning and work, and a better capability to help individuals imagine the various pathways that could be possible based on the full range of knowledge, skills, and competencies they have (or will acquire).

Underlying this will need to be a robust system and process for **assessing learning**. While we currently have numerous approaches to assessment, there is considerable room for improvement to support the future vision for higher education. In particular, current individualized assessment models can be costly and labor intensive; there are opportunities to leverage technology in new ways to make assessment more efficient and affordable. In addition, today's assessments are often focused on narrow definitions of learning and outcomes. They, therefore, can miss learning that is related to the concepts – and also miss the different ways knowledge can be constructed through work, volunteerism, social interactions, and other experiences.

When assessments are integrated into the learning process, rather than cumulative or periodic snapshots, they move from being transactional to process-oriented that encourage and support learning. Ongoing assessments that are built into learning activities are developmental and capture growth and change. Assessments that focus on learning and development more closely mirror the types of assessments needed in a changing work environment. Through integrative and authentic assessments, the institution can better understand what a student knows and can do and can identify what knowledge a student still needs to gain, and better prepare students for life and work. Learning recognition assessments provide an opportunity for students to reflect upon and self-assess what they know (i.e., their skills and competencies), relate that learning to a broader context, and build upon the knowledge to assimilate with new emergent knowledge – a clear goal of higher education.

Further Considerations

When education and industry both value learning recognition, they can join together to create seamless learning experiences that build upon each other as the learner moves across different learning environments. However, our need to move to a new kind of learning ecosystem will require tremendous changes to the status quo in higher education – and a different kind of relationship between higher education and industry partners.

Learning recognition changes the nature of academic offerings, requiring curriculum to be more flexible in order to integrate learning from various sources. Credentials change, becoming more descriptive and transparent of the competencies they represent without the need to segregate the source of learning.

To make this a reality, the perception that there is a division between learning and work needs to be eliminated and instead the student becomes a key connection point between those two worlds. The learning ecosystem needs to engage employers to jointly focus on how to support learners in their role as learning-work connectors. The "60-year curriculum" can assist in this effort by becoming more purposeful, not meandering and haphazard, with a focus on how to help learners develop enduring competencies, regardless of where they are in life. And the purpose of higher education needs to focus more on the transferability of learning rather than learning as an end product.

A system based on elevating learning recognition will require higher education to become better at assessing learning. As noted above, our current assessment methods are inefficient and costly, and they also are not measuring the kind of learning that is most valued by employers and academics alike. Further, faculty who are charged to be the main assessors of learning are rarely trained in assessment methods. Higher education needs to invest significantly in better assessments and require

that faculty – or whoever is charged with this role in the future – have the tools and training needed to administer them well.

Postsecondary institutions can't do this alone – particularly in the aftermath of a global pandemic. Public policy needs to change to provide new funding models that value the compilation of learning from various sources and focus on the validation and credentialing of learning. Newer forms of nationally recognized incremental credentials are needed to capture and connect learning along the way. Federal financial aid policies need to shift to support methods of learning recognition and incorporate all learning within their definitions of academic progression.[34] Accreditation policies, designed to provide quality assurance, also need to support greater integration of high-quality academic offerings and learning recognition. Concepts of what learning occurs before, during, and after engaging with an institution need to be blurred in policy, with a greater focus on what is learned and validated.

Investments in technological solutions for instructional delivery are important, but just as critical is a more robust data infrastructure to support new technologies and processes for data storage and sharing (e.g, Labor Market Information and universal transcripts). What is needed for data management is not just models built upon the existing traditional systems, which are based on institutional and transfer learning only, but rather a complete overhaul in the ways that student data are compiled, stored, and shared. Also important will be connections between learning records and labor market data to better understand individual career and educational pathways. Currently, higher education is so invested in antiquated and siloed systems that it will take billions of dollars to move student data out of these structures and into universal, distributed, and transparent data sources. Such changes are critical for creating the learning ecosystem that we need.

Getting There

Under normal circumstances, moving to a fully integrated learning system would take time and concerted effort. It would need a shift in perspective and academic design, which would require a re-examination of the role and identity of all constituents and how learning is assimilated and assessed. Although we were moving in that direction,

the global pandemic of 2020 is accelerating the need for and interest in implementing such changes. This will be hard work, but it is not impossible, particularly if there is greater political will to build a more responsive, agile learning ecosystem to meet the needs of a damaged global economic marketplace. There are steps that institutions can take to move toward a learning system within which all learning counts.

- **Determine the role of the institution in the larger learning landscape.** Postsecondary institutions interested in serving more learners and preparing them for a new kind of labor market will need to identify how each part of the institution can begin to integrate learning and work, as well as how to prepare students to transfer their learning to new situations and contexts. To be sure, many institutions will not choose to engage on these questions now, opting to continue serving their own niche definition of "college student." But other learning providers – both existing and emerging – will take the lead and take steps to redefine what is "mainstream" by adopting an integrated model.

- **Build comprehensive partnerships with industry** to coordinate and align learning from both sources. Institutions need to work with industry partners to build a learning schema that is co-developed, delivered, and supported. This partnership can support the development of a common language around skills and competencies, as well as clear expectations about what learning is needed and can be reinforced in both environments. To support a new kind of learning ecosystem, institutions and other learning providers will need to design professional development and educational opportunities with the expectation that learners will cycle in and out of each and be engaged with both at different times. Such offerings also need to be designed with our recent stay-home experience in mind: models that are online, flexible, short-term, modular, and asynchronous.

- **Take the time to build a culture that supports and can implement this new vision.** For the vision to become a reality, multiple changes need to happen simultaneously, and that cannot happen without strong leadership and a shift in institutional culture so that everyone is "rowing in the same direction." Constituents across the institution need to understand the "why"

as well as the "how." Once they do, they will be part of a team focused on ensuring that equity, quality, and integrity of academic offerings can be maintained while recognizing and integrating learning from other sources. Strong leaders and advocates can partner with faculty, and leverage faculty's experience in working with students, to illustrate that the process of coaching students to make sense of, integrate, and connect their knowledge to a variety of settings and employment adds value to teaching and higher education; in fact, this approach becomes even more critical than merely *conveying* information. A new culture in support of change will support the development of a different kind of curriculum that allows for diverse learning sources that focus on building competencies. New assessment strategies, including self-assessments, are critical to this entire enterprise; evaluation and validation of learning will be integrated into the learning process and connected to incremental credentialing. In this way, whether for individual or societal reasons, when a student cycles in and out of educational activities, learning is not lost.

- **Examine how policies, strategies, and practices can strive for greater equity for all learners and all learning** at institutional and public policy levels. At an institutional level, restricting what learning is accepted into curriculum restricts the learner and can set up barriers to access. Institutions need to ensure that the assessment of learning is culturally responsive, socially just, and cognizant of the potential for implicit bias and privilege to limit what learning is acceptable.[35] At all levels, equity questions, such as who is left out by policies, strategies, and practices, and for what reasons, need to be examined critically. The COVID-19 pandemic has taught us that some policies can be more inclusive to help all students be more successful. Policies also need to be updated to allow formally recognized incremental credentials that capture knowledge as people obtain it. In this way, as learners move in and out of work and education, they are not penalized for not completing one of the established four-tier degree possibilities. Public policies need to create more incentives for state systems and institutions to move in these directions, while moving away from funding models that only support face to face, instructor-led coursework.

In addition, from federal to local policy levels, we need to move from a rigidly tiered credentialing system to a more incremental system that captures and validates learning that happens in smaller doses and across the span of a lifetime.

Conclusion: Getting to There from Here: What's It Going to Take?

Just as institutions were learning about and adopting learning recognition practices, and partially in response to, higher education was under scrutiny to respond to industry needs and redesign its approaches to prepare students better for the workforce. With the pressures of decreased funding and lower enrollments, higher education was faced with change regardless of whether it was ready or wanted the change. Now these demands are exemplified as the country struggles to capture economic stability.

Higher education is more crucial to the economic health of this country than ever before. The United States faces the largest unemployment rate in its history. Some industries will survive, while others will not, and new ones will emerge. Large numbers of adults will need to upskill, reskill and redirect their careers to stay employed. Work environments and working styles will change. What is needed now is for higher education to take a lead role in the professional development for re-employment in our country.

The new ecosystem outlined in this chapter, developed to address the issues faced by higher education, will take time, a shift in institutional culture, and newer ways to increase partnerships with industry. But we learned quickly during the pandemic that higher education can move fast and can take on tasks that previously seemed unsurmountable. Higher education cannot do this alone. In partnership with industry and local and state governments, policies, procedures, and practices need to be re-examined and updated to assist people to be educated and to work, including curriculum and credentialing.

Learning recognition is here to stay. Institutions that embrace and incorporate learning recognition will be forefront and leading new directions in education. Hard work, policy overhaul, and clear investments are needed for these changes. Higher education has a choice: to do business as usual or to create a learning system that supports and bolsters learners

throughout their life and careers, regardless of the circumstances surrounding them.

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About the Organizations

The Council for Adult and Experiential Learning (CAEL), a Strada Education Network affiliate, is a nonprofit organization that champions adult learners and brings together educators, employers and regions to create solutions that integrate work and learning. CAEL helps create pathways for adults through learning that has recognizable and relevant value to employers.

SUNY Empire State College educates students at any stage of life with a personalized learning experience delivered online, in person, or a blend of both. With world-class faculty, dedicated mentors to help students tailor their degree programs, and cutting-edge distance learning technology, SUNY Empire delivers a trusted and flexible online college experience grounded in more than 30 New York state locations and seven international sites. The college's nearly 50 years as a leader in awarding credit for prior learning and life experience helps students earn a degree faster and at lower cost.

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About Lumina Foundation: Lumina Foundation is an independent, private foundation in Indianapolis that is committed to making opportunities for learning beyond high school available to all. Lumina envisions a system that is easy to navigate, delivers fair results, and meets the nation's need for talent through a broad range of credentials. Lumina's goal is to prepare people for informed citizenship and for success in a global economy. Learn more at luminafoundation.org.

About Strada Education Network: Strada Education Network is a national nonprofit dedicated to improving lives by catalyzing more direct and promising pathways between education and employment. Strada engages partners across education, nonprofits, business, and government to focus relentlessly on students' success throughout all phases of their working lives. With these partners they address critical college-to-career challenges through strategic philanthropy, research and insights, and mission-aligned affiliates, all focused on advancing the universal right to realized potential. Learn more at stradaeducation.org.

For more than 65 years, the **Western Interstate Commission for Higher Education (WICHE)** has been strengthening higher education, workforce development, and behavioral health throughout the region. As an interstate compact, WICHE partners with states, territories, and postsecondary institutions to share knowledge, create resources, and develop innovative solutions that address some of our society's most pressing needs. From promoting high-quality, affordable postsecondary education to helping states get the most from their technology investments and addressing behavioral health challenges, WICHE improves lives across the West through innovation, cooperation, resource sharing, and sound public policy.