

# Definitions & Use of Key Terms & Concepts in **Incremental Credentialing**

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# Overview

## PURPOSE

Many concepts and terms in the learn-and-work ecosystem are confusing. Some terms and concepts are new to the field and have no established definitions. Many are trending terms or concepts, not well understood. Others are used in different ways, depending on stakeholder perspectives and contexts. There are so many terms and concepts used that at times it is nearly impossible to know if we mean the same thing. For example, do we mean the same thing when we say competencies, skills, or learning outcomes? Or microcredentials, micro-pathways, and stackable credentials? And why does this matter?

The purpose of this document is to collect key definitions and use of terms and concepts in incremental credentialing to inform [Credential As You Go](#) as we seek greater clarity in the ways we describe and share our work to many stakeholder groups. These groups include:

- Learners
- Higher education institutions (credential providers)
- Employers and industry associations
- Workforce boards
- Policymakers
- Researchers and think tanks
- Journalists
- Accountability entities like accreditors and standards bodies.

## USE OF THIS RESOURCE

This document is a first effort to portray the breadth, nuances, and depth of the state of the “language” of incremental credentialing. This is not an exhaustive list of the definitions and terms related to incremental credentialing. There are likely missing terms; missing definitions among the terms listed; and questions around our judgment to include variations of these entries. We will be working to improve this resource over time, knowing that it will always be a “working document.”

An analysis of the entries reveals that nine organizations account for nearly 45 percent of all entries (see page 3). These organizations, therefore, appear to play an influential voice in defining the landscape of incremental credentialing. They also appear to be offering expertise as “definers” and “translators” of the terms and concepts being used in the field.

Moving forward, this document will be housed at the Credential As You Go website. It will also be available with many other resources at the digital [Learn & Work Ecosystem Library](#) in development to support both Credential As You Go and other efforts working to improve the learn-and-work ecosystem. The Library will be working to capture the many other definitions, terms, and concepts in the learn-and-work ecosystem, of course, not only those related to incremental credentialing.

## LANGUAGE “SUMMITS”

Credential As You Go will be sponsoring “language summits” to share multiple perspectives on the key concept and terminology areas, as well as issues and tensions that arise from a different context and uses of these concepts and terms. The first three considered at the [Summit](#) on March 16, 2022, were:

- **Credentials and pathways:** What are the different credential and pathway terms and how are they being used? Many terms—badges, microcredentials, micro-pathways, short-term credentials, incremental credentials, education certificates vs. certificates, licenses, certifications, degrees, noncredit-to-credit bridges—are confusing and used in different ways. We will examine the different meanings, who defines them, and where and how they are being used.
- **Equity, Inclusion, Fairness:** What do we mean by these terms and how can they guide our work? We all want equitable credentials that have on- and off-ramps that include everyone, creating a system that is fairer to everyone, but what does that mean? What does it look like? We will explore the implications of these terms in credentialing and key factors that make credentials more equitable and inclusive.
- **Competencies, Skills, Learning Outcomes:** What do these terms mean and how do we use them? Increasingly, some of these terms are used interchangeably. That causes confusion across different stakeholders, especially students, employers, credential providers, accreditors, policymakers, and educational researchers. We will explore the nuances behind these terms and their contextual implications. For example, employers may be using competencies and skills as synonymous terms, while higher education uses them as distinct terms.

## METHOD AND ANALYSIS

All definitions, use of terms, and concepts come from Internet searches—from websites, blogs, reports, and definitional documents. This method was selected based on the rationale that the “language” of incremental credentialing is and should be available in the open communications ecosystem.

Judgment calls were used to select entries for the document, using as a guide the following criteria to collect and select:

- Diverse and nuanced voices (e.g., from employers, research reports from think tanks, media articles, dictionaries and glossaries, college and university websites)
- Main definitions in use, especially those longer standing in the vernacular (like those at Wikipedia)
- Ways in which terms are used in reports, at websites, and in blogs and articles communicating to both niche and public audiences
- International definitions to enable comparisons with US definitions and the use of terms.

The following stats describe the number of terms, number of entries, number of voices, and the most influential voices in the incremental credentialing definitional arena, based on an analysis of the entries in this document:



- **Number of Terms:** 74 terms identified (many are permutations of terms) within 43 term areas
- **Number of Entries:** 169 entries (definitions, use of terms, concepts)
- **Number of Voices:** 62 organizations and individuals represented in entries
- **Top Nine.** Nine organizations account for 44.8 percent of the entries

Most Cited Organizations	# of Entries
Western Governors University	13
Credential As You Go	11
Wikipedia	9
Credential Engine	8
The Organisation for Economic Co-operation and Development (OECD)	7
Connecting Credentials	7
Joint Reports of Workcred; the Corporation for a Skilled Workforce; and the Program on Credentials, Skills & Workforce Policy, George Washington University	5
State University System of New York (SUNY)	5
Non-degree Credentials Research Network (NCRN)	5
Rutgers University's Education and Employment Research Center (EERC)	4
<b>Total</b>	<b>74</b>

## NEXT STEPS

We welcome feedback to let us know how this resource may be helpful in your work. If you would like to suggest adding missing terms and concepts and/or suggest revisions, contact:

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# Definitions & Use of Key Terms

## ALTERNATIVE CREDENTIALS

**Axiom elite:** Colleges and universities are partnering with businesses, professional organizations, private foundations, public policy groups and the U.S. Department of Education to create alternative credentialing programs that support competency-based education and other modern learning models. These programs take a number of different forms. In professional boot camps, students are typically taught specific skills required to meet an employer's job requirements. Boot camps originated in the technology sector with coding boot camps, which provide specialized computer programming training based on current market conditions. Many schools are using massive, open online courses (MOOCs) that provide students with free access to a year's worth of educational content. On-demand learning programs provide the flexibility of self-paced, online learning, while many offer the option to remotely participate in a live session. Shorter, highly specific microlearning programs often use video to educate in short bursts. When students demonstrate mastery of certain knowledge or skills by completing some type of non-degree coursework, they earn alternative credentials. Different types of alternative credentials include but are not limited to:

- **Digital Badge**—verified indicator of accomplishment, skill, knowledge, experience, etc. that can be earned in a variety of learning environments. Digital badges are awarded based on competency, not necessarily the completion of a program. The badge itself is an icon that can be displayed on a website, profile, email signature or anywhere else on the Internet.
- **Verified Certificate**—awarded to indicate completion of an online course, especially a MOOC. Students must complete all program requirements and then verify their identity before receiving the credential. Course sequences are a form of verified certificates that indicate a pathway of courses for learning a specific topic.
- **Micro-Credential**—highly specific, competency-based degree or certification. Micro-credentials are often created and chosen to align a student's needs with instructional goals. The credential is earned upon the completion of certain activities, tasks, projects, and/or assessments.

**OECD:** Credentials that are not recognised as standalone formal educational qualifications by relevant national education authorities. While alternative credentials can be awarded at all levels of education, much of the attention is on individuals who have completed secondary education, and specifically on three conceptually distinct forms of alternative credentials offered at the postsecondary or tertiary education level: 1) certificates, 2) digital badges, and 3) micro-credentials.

**OECD:** Employers are actively entering the alternative credentials market. They may be considering the expansion as an opportunity to increase their influence on education and supply of labour, and essentially to improve labour productivity. In the case of formal education programmes, employers' participation in education can be limited—they may give advice on the government or higher education institutions or may develop some programmes in co-operation with higher education institutions. However, in the case of alternative credential programmes, they can choose learning methods and outcomes more freely and train individuals in the way they wish.

### **Pearson/UPCEA (University Professional and Continuing Education Association):**

Competencies, skills, and learning outcomes derived from assessment-based, non-degree activities that align to specific, timely needs in the workforce.

## APPRENTICESHIPS AS ALTERNATIVE CREDENTIALS

**OECD:** Apprenticeships, a form of work-based learning, are sometimes included within the scope of alternative credentials in policy discussion in the United States, as apprenticeships have historically been organised outside of the education system and are not recognised by national education authorities.

## ARTICULATION

**ERIC (1978):** Systematic coordination between an educational institution and other educational institutions and agencies designed to ensure the efficient and effective movement of students among those institutions and agencies, while guaranteeing the students' continuous advancement in learning. Emphasizes proper attitude and institutional cooperation for its implementation in successful programming.

**Wikipedia:** Articulation, or more specifically course articulation, is the process of comparing the content of courses that are transferred between postsecondary institutions such as TAFE institutes, colleges, or universities. Course articulation is the process by which one institution matches its courses or requirements to coursework completed at another institution. Students rely on course articulation to assure themselves that the courses they have completed or intend to complete will not need to be repeated at the institution to which they are transferring. Course articulation is distinct from the process of acceptance by one institution of earned credit, from another institution, as applicable towards its degree requirements, i.e., "transferring credit". For example, a university may count units of academic credit earned at a community college towards its minimum number of units

## AUTO-AWARD (AUTOMATIC)

**Academic Senate for California Community Colleges (Feb. 2015):** With the advent of degree audit software, one method for increasing degree and certificate completion is to use the software to audit the coursework that students have completed, and automatically award degrees and certificates if they have completed the required coursework.

## BADGE, SKILLS BADGE, OPEN BADGE, COMPETENCY BADGE

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Use digital technologies to represent learning achievements. Open badges use open standards that support interoperability and connections among systems and contexts. Badges can be created and awarded by institutions, organizations, groups, or individuals. Badges are flexible with regard to how issuers create them, define their use, and develop their criteria (which are publicly viewable, embedded in the badge, and verifiable). Therefore, badges are used to represent granular competencies as well as deeply linked, rich experiences and complex learning. Badges are being used in conjunction with and/or as modular components of traditional credentials such as degrees. Badges can link to evidence and can be used as representations of credentials. Badges can expire or be revoked, making them useful for credentials that are not continuously valid. Given their flexibility, badges bridge traditional, accredited credentials, professional and industry-recognized credentials, and nontraditional, experimental credentials.

**Credential Engine's Counting U.S. Postsecondary & Secondary Credentials (2/2021):** Open Badges are digital badges that contain embedded metadata about skills and achievements and are shareable across the web. Any organization can issue a badge in accordance with the Open Badges specification, published by the IMS Global Learning Consortium, which standardizes how badges are digitally represented.

**IMS Global:** Open badge is a specific type of digital badge that conforms to the Open Badges standard. Open Badges are verifiable contain detailed information about the achievement and what the recipient did to earn the badge.

**Non-degree Credentials Research Network (NCRN):** Digital badges (aka e-badges) are a validated indicator of accomplishment, skill, quality or interest that can be earned in various learning environments. They can be displayed, accessed, and verified online.

**OECD:** Digital badges are defined by SURFnet as digital pictograms or logos that can be shared across the web to show the accomplishment of certain skills and knowledge." The skills or experience to which they attest are highly variable (from general to specialised skills and knowledge, and from cognitive to noncognitive skills), and may or may not be related to an academic programme of study (as with academic certificates) or industry and professional standards (as with professional certificates).

**State University of New York (SUNY):** Use of digital technologies to represent competencies and various learning achievements; electronic badges should include meta-data on the evidence of learning and link back to sponsoring institution and evaluation criteria.

**Rutgers (2019):** Credential awarded for completion of a short program of study or for demonstration of a targeted set of skills. These are newly emerging.

**Understanding Certifications—Workcred, CSW, GWIPP (2020):** Digital representations of individuals' achievements, consisting of an image and metadata uniquely linked to the individual's skills. Digital badges have an issuer (an institution that testifies), an earner (learner), and a displayer (site that houses the badge).

**Western Governors University:** A badge is a digital object with underlying metadata that represents a shareable learner achievement and/or credential earned. Metadata should include evidence of learning and link back to sponsoring institution and evaluation criteria.

**Western Governors University:** A competency badge is a single or set of verified competencies with a defined market value that prepares the learner for a specific professional or academic skill or task. Competency badges are typically offered as part of a degree or micro-credential program.

## BADGE BACKPACK

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Documented award by a responsible and authorized body that attests that an individual has achieved specific learning outcomes or attained a defined level of knowledge or skill relative to a given standard. Credential, in this context, is an umbrella term that includes degrees, diplomas, licenses, certificates, badges, and professional and industry certifications.

**Goodwin:** A credential is officially documented credit that verifies an individual's qualification or competency in a specific skill. Credentials are earned and awarded by completing a course of study, successfully passing an assessment, or meeting specified requirements that verify competency.

**IMS Global:** Term originally used to describe Open Badges services that provide badge importing, aggregation, and hosting features for recipients. These services match most closely with the role now referred to as the "Host" application. Similar services are called wallets, passports, and portfolios.

**Wikipedia:** A piece of any document that details a qualification, competence, or authority issued to an individual by a third party with a relevant or de facto authority or assumed competence to do so. Examples of credentials include academic diplomas, academic degrees, certifications, security clearances, identification documents, badges, passwords, usernames, keys, powers of attorney, and so on. Sometimes publications, such as scientific papers or books, may be viewed as similar to credentials by some people, especially if the publication was peer-reviewed or made in a well-known journal or reputable publisher.

## CERTIFICATE

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Awarded upon the successful completion of a brief course of study, usually one year or less but at times longer, primarily in institutions of higher education, university extension programs or non-degree granting post-secondary institutions like area career and technical education schools. Certificates are sometimes issued for participation or completion, other times for attainment of competencies. Certificates are used at many levels of knowledge and skills, ranging from foundational skills to learning at the post-graduate level.



### **Credential Engine’s Counting U.S. Postsecondary & Secondary Credentials (2/2021):**

Type of award conferred by a college, university, or other postsecondary education institution indicating the satisfactory completion of a non-degree program of study. Typically, the course requirements for earning a certificate are less than those for earning a degree. Most certificates require no more than one year of full-time academic effort. A certificate may be for-credit (academic certificate) or non-credit (continuing education certificate). This credential category only counts Title IV-eligible academic certificates at Title IV institutions. Students enrolled in continuing education programs or academic certificates with less than 300 clock hours at Title IV institutions are not eligible to receive federal financial aid to apply towards their program tuition. These shorter programs are not included in this count but are included in the Non-Title IV Certificates count.

**NCRN:** Educational certificate is a credential awarded by an educational institution based on completion of all requirements for a program of study, including coursework and test or other performance evaluations. Certificates are typically awarded for life (like a degree). Certificates of attendance or participation in a short-term training (e.g., 1 day) are not in the definitional scope for educational certificates.

**Understanding Certifications—Workcred, CSW, GWIPP (2020):** Awarded by an education institution or other organization based on completion of all requirements for a program of study, including coursework and tests. They are not time limited and do not need to be renewed.

**SUNY:** Issued by an institution in recognition of the completion of a curriculum that usually represents a smaller domain of knowledge than established degrees. Credit bearing certificates must be approved by SUNY and registered with the State Education Department. These certificates typically contain fewer credits than a degree program. All credits must be applicable toward a degree program at the issuing institution. Noncredit certificates need no external approval and must be identified as such.

## **CERTIFICATION**

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Indicate mastery of or competency in specific knowledge, skills or processes that can be measured against a set of accepted standards. These are not tied to a specific educational program, but are typically awarded through assessment and validation of skills in cooperation with a business, trade association or other industry group. After attaining a certification, individuals often must meet ongoing requirements to maintain the currency of the certification.

### **Credential Engine’s Counting U.S. Postsecondary & Secondary Credentials (2/2021):**

An occupational certification is a credential awarded by an authoritative body—such as an industry or professional association—to an individual who demonstrates designated knowledge, skills, and abilities in a particular occupation. Many certifications are time-limited and renewable and an individual may take courses to prepare for a competency examination. Certification providers may allow other organizations to provide the courses and administer the tests that qualify a person for the certification. Verification that certification providers and their partners meet certain standards is provided by accreditation organizations. Accreditation is voluntary

**Understanding Certifications—Workcred, CSW, GWIPP (2020):** Awarded by certification bodies—typically nonprofit organizations, professional associations, industry and trade organizations, or businesses—based on an individual demonstrating, through an examination process, that she or he has acquired the knowledge, skills, and abilities required to perform a specific occupation or job. Depending on the certification body, they may be called industry or professional certifications. Although training may be provided, certifications are not tied to completion of a program of study as are certificates. They are time limited and may be renewed through a re-certification process. In addition, some certifications can be revoked for a violation of a code of ethics (if applicable) or proven incompetence after due process.

**NCRN:** A credential awarded by a certification body based on an individual demonstrating through an examination process that he or she has acquired the designated knowledge, skills, and abilities to perform a specific job. The examination can be either written, oral, or performance-based. Certification is a time-limited credential that is renewed through a recertification process.

**SUNY:** Mastery of or competency in specific knowledge, skills or processes that can be measured against a set of accepted standards, usually established by a recognized entity such as NYSED in the case of licensure requirements or an industry organization such as Microsoft.

**Rutgers (2019):** Credential awarded by an industry body or governmental agency for demonstration of skills, typically via examination, based on industry or occupational standards.

## CERTIFICATION CROSSWALKS

**Ivy Tech Community College of Indiana:** Document listing the credit courses that correspond to a particular license or certification. Certification Crosswalk are used to link specific certifications and licenses to course or courses that provide education or training in the same subject matter. The crosswalk provides a consistent process for awarding credit for prior learning experiences. Program curriculum committees compare certifications and licenses with the statewide course objectives for the class(es) to ensure that certification and/or licensure is an effective measure of the objectives of the course(s). Certifications and/or licenses are added to or removed from the crosswalk by the program curriculum members.

## COMPETENCY

**Western Governors University:** A measurable, assessable capability of an individual that integrates knowledge, skills, abilities, and dispositions required to successfully perform tasks at a determined level in a defined setting.

## COMPETENCY-BASED EDUCATION, COMPETENCY-BASED LEARNING, FRAMEWORK

**Wikipedia:** Competency-based learning or competency-based education is a framework for teaching and assessment of learning. It is also described as a type of education based on predetermined “competencies,” which focuses on outcomes and real-world performance. CBL is sometimes presented as an alternative to traditional methods of assessment in education. In a CBE framework, students demonstrate their learned knowledge and skills in order to achieve specific predetermined “competencies.” The set of competencies for a specific course or at a specific educational institution is sometimes referred to as the competency architecture. Students are generally assessed in various competencies at various points during a course, and usually have the opportunity to attempt a given competency multiple times and receive continuous feedback from instructors. Key concepts that make up the competency-based education framework include demonstrated mastery of a competency, meaningful types of assessment, individualized support for students, and the creation and application of knowledge.

**Competency-based Education Network (C-BEN):** Competency-based programs transparently communicate the learning objectives students must achieve to earn degrees and other credentials; enable students with existing knowledge and skills to personalize their educations and accelerate progress towards completion; use technology that enables students to learn anytime, anywhere, at prices they can afford’ and integrate support from faculty, mentors, and coaches that can build confidence needed for success, aimed at creating fair and just educational results.

## CREDENTIAL

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Documented award by a responsible and authorized body that attests that an individual has achieved specific learning outcomes or attained a defined level of knowledge or skill relative to a given standard. Credential, in this context, is an umbrella term that includes degrees, diplomas, licenses, certificates, badges, and professional and industry certifications.

**Goodwin:** A credential is officially documented credit that verifies an individual's qualification or competency in a specific skill. Credentials are earned and awarded by completing a course of study, successfully passing an assessment, or meeting specified requirements that verify competency.

**Wikipedia:** A piece of any document that details a qualification, competence, or authority issued to an individual by a third party with a relevant or de facto authority or assumed competence to do so. Examples of credentials include academic diplomas, academic degrees, certifications, security clearances, identification documents, badges, passwords, usernames, keys, powers of attorney, and so on. Sometimes publications, such as scientific papers or books, may be viewed as similar to credentials by some people, especially if the publication was peer-reviewed or made in a well-known journal or reputable publisher.

## CREDENTIAL AS YOU GO

**Credential As You Go (2022):** The title of a national initiative working toward a nationally recognized transferable incremental credential system that increases the number of high-quality, post-high school credentials that lead to further education and employment. The system captures and verifies learning that is currently uncaptured, enabling individuals to be recognized for what they know and can do as they acquire it; provides pathways for learners to continue their education, increasing their ability to gain higher credentials and better employment.

**Credential As You Go (2021):** A post-secondary education system that increases the number of transparent, transferable, and incremental credentials that capture all learning (internal and external to institutions) with clearly articulated, verified competencies linked to employment opportunities while decreasing student debt load and the overall cost of postsecondary education. The vision includes a faculty-developed model of transferrable incremental credentials that serve as blueprints for further testing, revision, and dissemination endorsement from top national leaders on the goal and model with recommendations to move the work to rapid prototyping across state-level systems and partnerships to implement and sustain the new system to include accreditation associations, many colleges, and universities, and policymakers that set the regulations around the types of credentials higher education institutions may offer researchers who have studied the models to study outcomes and assist in case making.

**Credential As You Go (2021):** A nationally recognized, incremental postsecondary credentialing system that expands upon existing certificates and undergraduate and graduate degrees to increase the number of individuals who hold high-quality postsecondary credentials characterized by smaller credentials capturing learning as it is acquired; stacking, augmenting, and/or recombining (re-bundling) credentials.

## DEGREE

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** A degree is a title given by an institution (usually a college or university) that has been granted the authority by a state, a recognized Native American tribe, or the federal government to confer such degrees. Generally, degrees are provided for accomplishment in academic, vocationally related, or religious studies, and the degree requirements differ within each of these three realms but are presumed to be comparable in accomplishment. A degree is granted by an institution to individuals who are presumed or who have been attested to have satisfactorily completed a course of study from which the individual can demonstrate the knowledge, skills, and ability commensurate with the degree requirements within the specific field of study. Degrees vary in the level of knowledge and skills that holders of the degree are presumed to have.

**Credential Engine's Counting U.S. Postsecondary & Secondary Credentials (2/2021):** A degree is a type of award conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of study. Primary degree levels include Associate's, Bachelor's, Master's, Doctoral, and specific professional degrees (such as M.D. [Doctor of Medicine] and J.D. [Juris Doctor]). A Title IV postsecondary education institution is one that has a written agreement with the U.S. Secretary of Education allowing the institution to participate in Title IV federal student financial aid programs. Title IV postsecondary institutions must be approved to operate by their state department of higher education and accredited by an accrediting body recognized by the U.S. Department of Education.

**Understanding Certifications—Workcred, CSW, GWIPP (2020):** Associate, baccalaureate, and graduate—are awarded by public and private colleges and universities, and community colleges based on the completion of all requirements for a program of study. Programs of study vary in level, prerequisites, and length. Applied degrees provide enhanced career preparation through programs of study that combine theoretical and practical learning. Degrees are not time-limited and do not require renewal.

**Western Governors University:** A program of (10-120+) verified competencies with a clear labor market value, designed to prepare the learner for employment and advancement in a specified career trajectory, or to prepare the learner for more advanced study. A degree can be conferred at an Associates (20+), Bachelors (40+), and Graduate level (10+).

**Wikipedia:** A qualification awarded to students upon successful completion of a course of study in higher education, usually at a college or university. These institutions commonly offer degrees at various levels, usually including bachelor's, master's and doctorates, often alongside other academic certificates and professional degrees. The most common undergraduate degree is the bachelor's degree, although in some countries there are lower-level higher education qualifications that are also titled degrees (e.g. associate degrees and foundation degrees) and higher level (e.g. undergraduate master's degrees).

## DIGITAL CREDENTIAL ECOSYSTEM, DIGITAL CREDENTIAL MARKETPLACE

**IMS Global Learning Consortium:** The digital credentials ecosystem is based on open standards that show the whole learner at every step of their journey, ensure interoperability across systems, and open the doors to opportunity today and tomorrow. An education-to-employment ecosystem [is] when institutions and employers collaborate, learning outcomes and skills are aligned so a learner's credentials can be verified and matched instantly to the right job. Today's digital credentials are how educators award achievement, learners stack their experiences, and employers find the perfect match and upskill their teams.

**McClennen & Vander Ark, GETTINGSMART:** Digital credentials are becoming the new building blocks of a system of verified learning. Compared to courses, credentials typically have a smaller grain size allowing for more detailed definitions and more specific assessment of skills and capabilities. To be widely adopted, digital credentials require valid and reliable assessments and a marketplace of recipients (i.e., higher ed and employers) that rely on verified skill assertions. A 2021 Credential Engine report cataloged nearly one million credentials suggesting strong early adoption. Badgr and Credly are supporting the development of digital credential marketplaces of issuers (schools, colleges, training orgs) and receivers (employers, higher ed). They integrate with widely adopted learning management systems (like Canvas) and distributed ledger learner record systems (like Greenlight Credentials). Digital credentials are collected in learner records aligned with IMS or xAPI standards.

## EQUITY, EQUALITY, FAIR/JUST OUTCOMES, EQUITY-MINDEDNESS, INCLUSION, RACIAL JUSTICE

### **Annie E. Casey Foundation:**

- Equity is defined as the state, quality or ideal of being just, impartial and fair. The concept of equity is synonymous with fairness and justice. It is helpful to think of equity as not simply a desired state of affairs or a lofty value. To achieve and sustain equity, it needs to be thought of as a structural and systemic concept. Equity involves trying to understand and give people what they need to enjoy full, healthy lives.
- Equality aims to ensure that everyone gets the same things in order to enjoy full, healthy lives. Like equity, equality aims to promote fairness and justice, but it can only work if everyone starts from the same place and needs the same things.

- Systemic equity is a complex combination of interrelated elements consciously designed create, support and sustain social justice. It is a dynamic process that reinforces and replicates equitable ideas, power, resources, strategies, conditions, habits and outcomes.
- Inclusion is the action or state of including or of being included within a group or structure. More than simply diversity and numerical representation, inclusion involves authentic and empowered participation and a true sense of belonging.
- Racial justice is the systematic fair treatment of people of all races that results in equitable opportunities and outcomes for everyone. All people are able to achieve their full potential in life, regardless of race, ethnicity or the community in which they live.

**Asia Society:** Equity in education means that personal or social circumstances such as gender, ethnic origin, or family background, are not obstacles to achieving educational potential (definition of fairness) and that all individuals reach at least a basic minimum level of skills (definition of inclusion).

**Levine, Art (Diverse Issues in Higher Education):** A major step will be to formally redefine the term educational equity for a new era. The current definition [educational equity] is a product of the Industrial era and focuses on providing all students with access to the same educational process for the same length of time. The goal is to assure each student receives equal resources and experiences. In the global, digital, knowledge economy, the emphasis shifts to outcomes. In this world, equity takes on a new meaning—assuring equal access to the same learning outcomes, providing students with the differential resources they require to achieve the same result. This is an approach the courts are commonly taking to adjudicate school fiscal equity lawsuits in the states.

**Lumina Foundation (2020):** A lack of access to high-quality learning opportunities after high school with adequate academic, financial, and social supports has denied Black, Hispanic, and Native American people opportunities to advance economically and to fully participate in society. Racial disparities in the United States are widening, and without concerted efforts, inequity will only continue to grow. Intentionally designed policies and deliberate actions created these unjust conditions. It will take equally focused efforts to achieve racial equity in America. Achieving fair and just outcomes for people of color must be the mission of higher education.

**USC Center for Race and Equity:** Equity-Mindedness refers to the perspective or mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes. These practitioners are willing to take personal and institutional responsibility for the success of their students, and critically reassess their own practices. It also requires that practitioners are race-conscious and aware of the social and historical context of exclusionary practices in American Higher Education.

**Western Governors University:** Equity is the pursuit of creating an educational system that caters to students of all kinds and develops their educational experience accordingly. This means that no matter what a student's background, language, race, economic profile, gender, learning capability, disability or family history, each student has the opportunity to get the support and resources they need to achieve their educational goals. While the terms equity and equality are often used interchangeably, there are notable differences between the two. Equality focuses on ensuring students are presented with the same educational opportunities throughout their scholastic career; however, this approach doesn't take into consideration that even with those opportunities, different students will have different needs in order to succeed. This is where equity comes in. Equity focuses on taking those opportunities presented to students and infusing them with support and resources to turn the education system into a level playing field. This means that disadvantaged students will get the support they need to become equal to students who are not disadvantaged. It takes equality a step further by lifting students who may not have the same opportunities and ensuring they not only are presented with the same options, but that the differences are made up for these students.

## FRAMEWORKS, QUALIFICATIONS FRAMEWORKS, LEARNING OUTCOMES FRAMEWORKS

**Lumina Foundation:** Learning frameworks are tools that specify learning outcomes and/or competencies that define, classify, and recognize educational, learner, and industry expectations of knowledge, skills, and abilities at increasing levels of complexity and difficulty. They are not standards, and they are not limited to academia, but they do allow for alignment, translation, and mapping of learning through various spaces in order to capture learning that can be valued and recognized by education, industry, and the military. These frameworks can support quality assurance mechanisms for reviewing aligned curriculum and training, provide guideposts for awarding credentials, and serve as end points from which learning experiences can be backward-designed. In addition, learning frameworks enable consistency; provide a common language within their user group(s); and assist in transferability within and across education providers, alternative learning pathways, military learning, and industries (including employer-developed industry expectations and career readiness skills).

**Wikipedia:** A Qualifications Framework (QF) is a formalized structure in which learning level descriptors and qualifications are used in order to understand learning outcomes. This allows for the ability to develop, assess, and improve quality education in a number of contexts. QFs are typically found at the national, regional, and international level. All QFs are learning outcomes-based. In QFs, qualifications are developed using learning outcomes, and the set of hierarchical levels they consist of are described with a set of learning level descriptors. QFs emerged from two complementary education and training discourses in the late 1980s: the competence approach to vocational education, and the shift to learning outcomes, embedded within the broader concept of lifelong learning. As a result, the interrelationship between competencies and learning outcomes was not only firmly embedded in QF thinking from the very outset, but was also used in a hybridized form. A national QF addresses the educational quality concerns of specific countries (Australian Qualifications Framework, Scottish Credit and Qualifications Framework, German Qualifications Framework). A regional QF focuses specifically on qualifications at the regional level (European Qualifications Framework, SADC RQF, CARICOM TVET Qualifications Framework, ASEAN RQF, Qualifications Framework for the European Higher Education Area, Pacific Qualifications Register).

**Yale Poorvu Center for Teaching and Learning:** Teaching and learning frameworks are research-informed models for course design that help instructors align learning goals with classroom activities, create motivating and inclusive environments, and integrate assessment into learning.

## FRONTLOADED EMBEDDED NON-DEGREE PATHWAYS

**Education Strategy Group:** Reordered degree pathways that front-load embedded non-degree credentials.

## GUIDED PATHWAYS [SEE PATHWAYS]

**Community College Research Center:** A movement that seeks to streamline a student's journey through college by providing structured choice, revamped support, and clear learning outcomes—ultimately helping more students achieve their college completion goals. The reform recognizes that the current self-service model of community colleges leads many students to unintended dead ends or unforeseen detours in the form of excess or out-of-sequence credit. There are 4 pillars of guided pathways: (1) clarify pathways to end goals, (2) help students choose and enter pathways, (3) help students stay on path, and (4) ensure students are learning. One reason Guided Pathways is so challenging to implement is the lack of clarity around what it is—the pillars outline broad principles but leave the specifics of implementation up to interpretation by the colleges.

## INCREMENTAL CREDENTIAL

**Credential As You Go (2021):** Incremental credentials capture learning as it is acquired; stacks, augments, and/or recombines (or bundles); may be focused or broad.

**Travers, Credential As You Go (2022):** Incremental Credentials capture learning as it is acquired along the learning pathway and formally recognizes and connects that learning to a larger context. Incremental credentials can be non-credit or credit-bearing; undergraduate or graduate level; of any size, from small units of learning up through degrees. The purpose of incremental credentials is to ensure learners are recognized for what they know and can do as they acquire the learning and not leave learners without formal documentation of that learning.

**Travers, Credential As You Go (2022):** Incremental Credentials capture learning as it is acquired and formally recognizes and connects the learning to a larger context.

## INCREMENTAL CREDENTIALING SYSTEM

**Credential As You Go (2021):** A nationally recognized incremental postsecondary credentialing system expands upon existing certificates and undergraduate and graduate degrees to increase the number of individuals who hold high-quality postsecondary credentials.

**Credential As You Go (2021):** An authorized, incremental credentialing system that is encouraged and supported at the federal, accreditation, state, system, and institutional levels to provide clear credentialing pathways as alternatives to the current, restrictive degree system for all learners—first-time students, returning adults, or adults with no recognized postsecondary education.

**Lumina Foundation (Sedlak) (May 2021):** An incremental credentialing system offering ‘credentials as you go’ recognizes learning as it occurs in stage. In such a system, progress toward a degree entitles students to certificates and workplace certifications of immediate value—before the completion of an associate or bachelor’s degree.

**Travers, Credential As You Go (2022):** Incremental Credentialing is the overall design and process used to develop and connect credentials to further learning and employment.

## INCREMENTAL CREDENTIALING FRAMEWORK

**Credential As You Go (2022):** The Incremental Credentialing Framework was developed from the results of the environmental scan, prototyping, and feedback from national leaders which took place during the Credential As You Go: Phase One initiative. The Framework provides six strategies that can be used to design incremental credentials:

- **Learn As You Go** - Incremental credentials stand on their own, unconnected to a degree, but prepare individuals for up-skilling, re-skilling, or developing new skills in specific workplace areas.
- **Add On As You Go** - Incremental credentials are obtained for specializations that add onto a degree pathway, but may not necessarily be planned in the pathway.
- **Stack As You Go** - Incremental credentials add together or stack into larger credentials and degrees, and are planned into credentialing pathways.
- **Transfer As You Go** - Incremental credentials are built to transfer across institutions and are a potential cost-sharing mechanism (students cross-register to another institution to pick up a specialty that the home institution does not offer).
- **Partner As You Go** - Incremental credentials prepare for and include field-expected credentials for work, as well as work-related credentials that are accepted into degree or other credentialing pathways, developed in conjunction with business/industry partner(s).
- **Retro As You Go** - Incremental credentials are awarded for learning already acquired but not yet credentialed. The Framework also includes auto-awarding of credentials to reduce the additional steps students typically go through to “apply” for a credential or graduation.

## INTEROPERABILITY, OPEN STANDARDS, ED-TECH INTEROPERABILITY

**HIMSS, 2019:** The ability of different information systems, devices or applications to connect, in a coordinated manner, within and across organizational boundaries to access, exchange and cooperatively use data amongst stakeholders.

**Data-Smart-Schools:** The education landscape has been shifting, and education technology vendors and publishers are among those leading the way in adopting universal interoperability standards. Interoperability gives districts the ability to create open learning ecosystems and enables the seamless sharing of data, content and services among systems and applications—in a seamless, effective manner. Today, more organizations and individuals that develop learning applications or tools are adhering to IMS Global Learning Consortium’s interoperability standards, which are fast becoming the industry standard for ed-tech interoperability paving the way for more data to be shared across a variety of learning tools and applications. Some technology users might be aware of data formats and protocols such as XML and SQL that offer ‘syntactic interoperability’ (i.e., the ability to exchange information). More difficult to establish is the capacity to automatically interpret and process data between systems (i.e. ‘semantic interoperability’). This requires systems to be using a common, unambiguously defined ‘information exchange reference model’. While data interoperability involves considerable technical challenges, it is primarily a challenge of establishing consensus and compromise between a range of different data actors. Establishing a commonly agreed-upon set of standards and protocols for data systems to adopt involves establishing a consensus amongst many different developers, vendors, regulators and end-users. If a ‘common standard’ is agreed upon, then it can be released for public adoption and use. This is referred to as an ‘open standard’ which can be adhered to by existing and future products as a guarantee of interoperability.

## LEARN AND WORK ECOSYSTEM

**The Learn and Work Ecosystem Library:** A connected system of formal and informal learning (education and training) and work. The ecosystem is composed of many building blocks. When all the building blocks are working together, individuals are able to move more seamlessly through the marketplace using a variety of credentials to communicate the skills and knowledge acquired in multiple settings (e.g., school, work, service, self-study). Employers have more detailed and externally-validated information during their hiring and upskilling processes. Schools are better able to count learning obtained outside of academic settings toward a degree or other credential. And the public is informed about our learn and work ecosystem. For the ecosystem to function effectively, all parts of the system must be connected and coordinated.

## LEARNING STACK

**Griffel & Sanmartín in The Student Voices:** The tools, platforms, apps, channels, podcasts, and videos used to learn new stuff.

## LICENSE

**Connecting Credentials—Glossary of Credentialing Terminology (6/2016):** Legal permission, typically granted by a government agency, to allow an individual to perform certain regulated tasks or occupations. Licenses are based on some pre-determined and standardized criteria, involving educational programs of study, assessments, and/or work experience. They are time-limited and must be renewed periodically and often carry a continuing education requirement. Practice in a licensed occupation is restricted to those possessing a license.



### **Credential Engine’s Counting U.S. Postsecondary & Secondary Credentials (2/2021):**

Each state requires persons practicing specific professions and vocations to first obtain an occupational license from a state licensing board. According to the National Conference of State Legislatures, “When implemented properly, occupational licensing can help protect the health and safety of consumers by requiring practitioners to undergo a designated amount of training and education in their field.”

**NCRN:** A credential awarded by a government agency that constitutes legal authority to do a specific job. Licenses are based on some combination of degree or certificate attainment, certifications, assessments, or work experience; are time-limited, and must be renewed periodically.

**Rutgers (2019):** Credential awarded by a state or federal governmental agency for demonstration of skills in a specific occupation. Sometimes awarded for completion of an educational program. Often requires work experience in an occupation.

**State University of New York (SUNY):** Legal permission, typically granted by a government agency, to allow an individual to perform certain regulated tasks or occupations. Licenses are based on pre-determined, standardized criteria, involving educational programs of study, assessments, and/or work experience and are time-limited requiring periodic review and renewal.

**Understanding Certifications—Workcred, CSW, GWIPP (2020):** Credentials that permit the holder to practice in a specified field. An occupational license is awarded by a government licensing agency based on pre-determined criteria. The criteria may include some combination of degree attainment, certifications, certificates, assessment, apprenticeship programs, and/or work experience. Licenses are time-limited and must be renewed periodically. Similar to certification, a license can be revoked for a violation of a code of ethics (if applicable) or proven incompetence after due process.

## **MICROCREDENTIAL / MICRO-CREDENTIAL**

### **Credential Engine’s Counting U.S. Postsecondary & Secondary Credentials (2021):**

An online educational credential that covers more than a single course but is less than a full degree.

**Credential Engine (2022):** A micro-credential is (1) a record of focused learning achievement verifying what the learner knows, understands, or can do; (2) includes an assessment based on clearly defined standards and is awarded by a trusted provider; (3) has stand-alone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning; and (4) meets the standards required by relevant quality assurance.

**Higher Education Quality Council of Ontario:** A representation of learning, awarded for completion of a short program that is focused on a discrete set of competencies (i.e., skills, knowledge, attributes), and is sometimes related to other credentials.

**National Education Association:** Micro-credentials are a digital form of certification indicating demonstrated competency/mastery in a specific skill or set of skills.

**OECD:** Typically in the United States, micro-credentials are understood as learning activity consisting of “more than a single course but less than a full degree” and are labeled differently across providers, such as MicroMasters (edX), Nanodegree (Udacity) and Specialisation (Coursera). In the European Higher Education Area (EHEA), an emerging definition of micro-credentials is a “sub-unit of a credential or credentials that confer a minimum of 5 ECTS<sup>2</sup>, and could accumulate into a larger credential or be part of a portfolio. Oceania tends to adapt a wider definition, and both of the above-mentioned types of micro-credentials, ranging from 5-40 credits, are regarded as micro-credentials.

**State University of New York (SUNY):** Microcredentials are compact credentials designed to provide job-ready skills and experiences and wherever possible, also provide a pathway to an initial or advanced degree. Microcredentials verify, validate, and attest that specific skills and/or competencies have been achieved; are endorsed by the issuing institution; having been developed through established faculty governance processes; and are designed to be meaningful and high quality.

**UNESCO (2021):** Typically focused on a specific set of learning outcomes in a narrow field of learning and achieved over a shorter period of time. Micro-credentials are offered by commercial entities, private providers and professional bodies, traditional education and training providers, community organisations and other types of organisations. While many micro-credentials represent the outcomes of more traditional learning experiences, others verify demonstration of achievements acquired elsewhere, such as in the workplace, through volunteering, or through personal interest learning. Micro-credentials are often promoted as an efficient way to upskill workers across the lifespan. A micro-credential: (1) is a record of focused learning achievement verifying what the learner knows, understands or can do; (2) includes assessment based on clearly defined standards and is awarded by a trusted provider; (3) has stand-alone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning; and (4) meets the standards required by relevant quality assurance.

**Western Governors University:** A form of credential endorsed by the issuing institution to verify, validate, and attest those specific competencies have been demonstrated. Micro-credentials are comprised of sequences of achievements that usually align with employer and industry need. Micro-credentials may stand-alone or be subsumed by a larger credential(s). A micro-credential can be viewed as a non-degree offering (NDO). The term is preferred over NDO, as this term can carry a negative connotation. The WGU Unified Credential Framework enables a unified credentialing system where learners earn incremental value as they make their way to a higher-level credential. Those micro-credentials are educational currency employers should value.

**Wikipedia:** In higher education, a microdegree and also microcredentials and micromasters is a qualification focused upon a specified professional or career discipline and typically comprises one or more sources of accelerated educational experiences.

## MODULAR LEARNING

**EdX:** Unbundling the traditional learning “packages”—Associate’s, Bachelor’s, and Master’s degrees—into more manageable learning chunks that are also tied to real career and life outcomes is what we call modular learning. Modular learning enables working professionals to learn new skills in shorter amounts of time, even while they work, and those seeking a degree are able to do so in a much more attainable way. They also earn credentials for the smaller modules of learning, thereby garnering value and positive feedback early in the process of advancing towards full degrees. This early positive feedback also increases motivation for learners to persist towards the full degree, if that is their goal.

## NONCREDIT TO CREDIT BRIDGES, NONCREDIT TO CREDIT PATHWAYS, NONCREDIT TO CREDIT ARTICULATION

**Education Strategy Group:** High-quality learning experiences in industry-focused noncredit programs, whether tied to a credential or not, should count for credit. Some programs award credit for learning when students transition into credit programs through the use of bridge tools, such as credit matrices, articulation agreements or equivalency agreements. Credit-based programs go through the process to become accredited while maintaining labor-market orientation, putting students on a direct pathway to an associate’s degree. Strong coordination across noncredit and credit departments is key in scaling and sustaining successful alignment. Colleges should consider organizing relevant noncredit and credit programs into the same department or establishing joint leadership.

**Evergreen Valley College:** Noncredit Education courses are designed for students who wish to advance their educational and career goals. Noncredit Bridge to Career Pathways serve as a Gateway into credit certificate and degree programs that lead to entry-level employment.

**Jobs for the Future (JFF):** Articulation enables students to easily transfer their noncredit learning into credit. This transfer can occur within the same college or, in many cases, to a different educational institution as long as an articulation agreement between the institutions has been established. While some noncredit courses may transfer for full credit, others may transfer only for fractional credit, depending on the course content and alignment to the degree program. The criteria and requirements for credit articulation can vary greatly across programs, institutions, and states.

**Peregrine Global Services:** There are a variety of bridge tools institutions can use to strengthen how noncredit courses translate to academic credits. Some schools will create formalized articulation agreements or internal equivalency agreements to illustrate how a noncredit course, industry certification, and credited course articulate. Another method is to cross-list courses within a learning management system and standardize learning outcomes, performance expectations, and faculty qualifications between credit and noncredit courses. Finally, Prior Learning Assessment (PLA) has become a common method for providing credit to students who can demonstrate competency based on work or noncredit course experience and education. Prior Learning Assessment (PLA) credits help bridge the gap between higher education and the real world.

## NON-DEGREE CREDENTIALS

**Education Commission of the States:** Nondegree credentials are often identified as opportunities for people to earn work-relevant education in a short period of time. However, not all non-degree credentials offer quality, value or stackability, which allows them to be applied to future work or education-related endeavors. Incorporating these qualities into non-degree credentials also requires the involvement of education, economic and workforce stakeholders.

**National Skills Coalition:** Non-degree credentials, such as certificates, industry certifications, apprenticeship certificates, and occupational licenses, are a key component of state economic development and credential attainment goals, helping workers obtain better jobs and serving to reconnect them to further postsecondary education and training opportunities.

**NCRN (2021):** Non-degree credentials include certificates, industry certifications, apprenticeship educational certificates, occupational licenses, and digital badges.

**Rutgers Education and Employment Research Center:** Non-degree credentials include a wide range of awards, including noncredit and credit certificates, industry certifications, occupational licensure, apprenticeships, and badges and microcredentials, offered by educational institutions, private training providers, industry associations, unions, and others.

**Strada Education Network:** The non-degree category includes a diverse range of learning experiences, such as certificate programs at community colleges, apprenticeships, vocational training, industry-based certifications, and occupational licenses, and more.

## PATHWAYS, CAREER PATHWAYS, MICRO-PATHWAY

**Credential Engine (Grann):** The Credential Transparency Description Language (CTDL) can instrument career pathways, credential pathways, Career and Technical Education (CTE) pathways. The majority of these are CTE—secondary career education pathways that are often produced through Perkins allocations or fulfill some of those requirements. Core to the definition is an intentional sequence of components (credentials, courses competencies, jobs, work roles) that lead to a destination. So the sequence and the destination are key parts of the definition.

**Education Design Labs:** A micro-pathway is two or more stackable credentials that can be packaged as a validated market signal connecting learners to employment in high-growth careers.

**WIOA Career Pathways:** A combination of rigorous and high-quality education, training, and other services that (1) aligns with the skill needs of industries in the economy of the State or regional economy involved; (2) prepares an individual to be successful in any of a full range of secondary or postsecondary ; (3) education options, including apprenticeships registered under the Act of August 16, 1937; (4) includes counseling to support an individual in achieving the individual's education and career goals; (5) includes, as appropriate, education offered concurrently with and in the same context as workforce preparation activities and training for a specific occupation or occupational cluster; (6) organizes education, training, and other services to meet the particular needs of an individual in a manner that accelerates the educational and career advancement of the individual to the extent practicable; (7) enables an individual to attain a secondary school diploma or its recognized equivalent, and at least one recognized postsecondary credential; and (8) helps an individual enter or advance within a specific occupation or occupational cluster.

## PRIOR LEARNING ASSESSMENT, CREDIT FOR PRIOR LEARNING, RECOGNITION OF PRIOR LEARNING

**CAEL:** Credit for prior learning (CPL) is a term for various methods that colleges, universities, and other education/training providers use to evaluate and formally recognize learning that has occurred outside of the traditional academic environment. It is used to grant college credit, certification, or advanced standing toward further education or training. Other common terms for this process include prior learning assessment (PLA) and recognition of learning.

**Jobs for the Future (JFF):** Credit for prior learning is making it easier for students with knowledge, skills, and experience gained on the job or in the classroom to quickly earn credits needed to obtain a degree without having to retake courses or develop competencies they already possess. Credit for prior learning enables learners to demonstrate the competencies they have gained through significant on-the-job or military experience, or through courses or credentials completed at an approved institution and that align to a for-credit program. Prior learning assessments, which is a term often used interchangeably with credit for prior learning, provide a means for students to receive credit as described above. These formal assessments, which can vary by institution and program type, gauge students' existing knowledge and skills in order to determine the degree to which they should be awarded credit for previous coursework completed at another approved educational institution or for prior work and life experience.

**UPCEA and WCET:** Recognition of prior learning is a term used for various methods of valuing college-level learning that has taken place outside of formal educational institutions, but that can be assessed so that it can count toward degrees or credentials. The ways students can demonstrate this learning and earn credit for it in college degrees or credentials include:

- **Standardized examination:** Students can earn credit by successfully completing exams such as Advanced Placement (AP), College Level Examination Program (CLEP), International Baccalaureate (IB), Excelsior exams (UExcel), DANTES Subject Standardized Tests (DSST).
- **Faculty-developed challenge exam:** Students can earn credit for a specific course by taking a comprehensive examination developed by campus faculty.
- **Portfolio-based and other individualized assessment:** Students can earn credit by preparing a portfolio or demonstration of their learning from a variety of experiences and non-credit activities. Faculty evaluate the student's portfolio and award credit as appropriate.
- **Evaluation of non-college programs:** Students can earn credit based on recommendations provided by the National College Credit Recommendation Service (NCCRS) and the American Council on Education (ACE) that conduct evaluations of training offered by employers or the military. Institutions also conduct their own review of programs, including coordinating with workforce development agencies and other training providers to develop crosswalks that map between external training/credentials and existing degree programs.

**Wikipedia:** Recognition of prior learning (RPL), prior learning assessment (PLA), or prior learning assessment and recognition (PLAR), describes a process used by regulatory bodies, adult learning centers, career development practitioners, military organizations, human resources professionals, employers, training institutions, colleges and universities around the world to evaluate skills and knowledge acquired outside the classroom for the purpose of recognizing competence against a given set of standards, competencies, or learning outcomes. RPL is practiced in many countries for a variety of purposes, e.g., an individual's standing in a profession, trades qualifications, academic achievement, recruitment, performance management, career and succession planning. The methods of assessing prior learning are varied and include evaluation of prior experience gained through volunteer work, previous paid or unpaid employment, or observation of actual workplace behavior. The essential element of RPL is that it is an assessment of evidence provided by an individual to support their claim for competence against a given set of standards or learning outcomes. RPL is sometimes confused with Credit Transfer, assessments conducted in order to recognize advanced standing or for assigning academic credit. The essential difference between the two is that RPL considers evidence of competence that may be drawn from any aspect of an applicant's professional or personal life. Credit Transfer and advanced standing deal primarily with an evaluation of academic performance as it relates to a particular field of study and whether or not advanced standing may be granted towards the gaining of additional qualifications. Some academic institutions include Credit Transfer within their overall RPL umbrella, as the process still involves assessment of prior learning, regardless of how achieved.

**Wikipedia:** Recognition of prior learning is known by many names in different countries. It is APL (Accreditation of Prior Learning), CCC (Crediting Current Competence), or APEL (Accrediting Prior Experiential Learning) in the UK, RPL in Australia, New Zealand, and South Africa, and PLAR (Prior Learning Assessment and Recognition) in Canada (although different jurisdictions within Canada use RPL and RCC (Recognition of Current Competence). France has a more sophisticated system in which assessment is known as Bilan de competences, Bilan des competences approfondi, or Validation de Acquis des Experiences (VAE). The United Nations UNESCO organisation has a “Global Convention on the Recognition of Higher Education Qualifications Project” to standardize terminology and definitions used in Higher Education.

## QUALITY NON-DEGREE CREDENTIAL

**National Skills Coalition:** A quality non-degree credential (NDC) is one that provides individuals with the means to equitably achieve their informed employment and educational goals. There must be valid, reliable, and transparent evidence that the credential satisfies the criteria that constitute quality. Four criteria should be considered for a credential to be identified as a quality credential. NSC recommends the first three criteria be required and the fourth—stackability—be strongly preferred. Each criterion stands not alone but as part of a package. Required Criteria:

- There must be evidence of substantial job opportunities associated with the credential. Evidence must include quantitative data and direct communication with employers.
- There must be transparent evidence of the competencies mastered by credential holders; competencies that align with expected job opportunities. A definition of a quality credential need not include any standard regarding length of time.
- There must be evidence of the employment and earnings outcomes of individuals after obtaining the credential.
- **Strongly Preferred Criterion:** The credential would ideally stack to additional education or training. The gold standard is that credentials stack to additional education or training, but there is not a universal pathway to reach this standard so states agreed it should not be an overarching required criterion in defining a quality credential.

**Law Insider:** Institutional agreement between one or more community colleges and a state university to share student transcripts when a student requests a reverse transfer of credit.

**Law Insider:** Statewide agreement whereby up to 45 credits that a student earns at any public four-year higher education institution in the State toward a bachelor’s degree are transferrable to any community college in the State for credit toward an associate degree.

**National Student Clearinghouse:** The first national automated platform for exchanging reverse transfer student data. Through Reverse Transfer, four- or two-year institutions can securely send course and grade information to any two-year institution from which a student has transferred. If eligible, the student is then awarded an associate degree. It doesn’t matter if the student transferred to another associate degree-granting institution first or bachelor’s-level institution, attended public or private institutions, or transferred across state lines.

**OCCRL (2015):** Allows students to use credits they earn at their university to transfer back to complete any degree requirements remaining at their former community college so they can attain an associate’s degree.

## RICH SKILL DESCRIPTOR (RSD)

**Western Governors University:** A skill statement and the associated metadata that allows for the interoperability of the skill across digital platforms.

## SHORT-TERM CREDENTIALS, SHORT-TERM TRAINING, SHORT-TERM PELL

**Georgetown University CEW:** Short-term programs typically run from 8-15 weeks at a postsecondary education institution.

**New America (2021):** Short-term credentials are less than one year of full-time study. Short-term credentials may include licenses issued by state or federal governments, certificates awarded by postsecondary institutions, and certifications awarded by industry organizations.

**Short-term Pell:** Kaine/Portman Short-Term Pell Amendment to S. 1260 would extend Pell Grant eligibility to students in qualifying short-term workforce education programs. The amendment is similar in structure to the Jumpstart our Businesses by Supporting Students (JOBS) Act. Like the JOBS act, the amendment would authorize a job training federal Pell Grant program to extend Pell eligibility to credit and non-credit programs between 150 and 600 clock hours in length. Pell Grant eligibility is currently limited to programs 600 hours or longer. The Dept. of Education (ED) would have one year from enactment to publish an eligibility application for short-term programs.

## SKILLS VS. COMPETENCIES vs. WORK SKILLS

**ACT:** Competencies of job roles is a foundational element of ACT WorkKeys®—assessments that measure foundational skills required for success in the workplace and help measure workplace skills that can affect job performance. Work skills assessed: applied math, graphic literacy, workplace documents, applied technology, business writing, workplace observation, fit, and talent.

**Degreed:** Competency is the knowledge, behaviors, attitudes and even skills that lead to the ability to do something successfully or efficiently. Skills are learned and applied abilities that use one's knowledge effectively in execution or performance.

**HRSG:** Skills define specific learned activities, and they range widely in terms of complexity. Knowing which skills a person possesses helps to determine whether their training and experience has prepared them for a specific type of workplace activity. Competencies identify the observable behaviors that successful performers demonstrate on the job. Those behaviors are the result of various abilities, skills, knowledge, motivations, and traits an employee may possess. Competencies take "skills" and incorporate them into on-the-job behaviors. Those behaviors demonstrate the ability to perform the job requirements competently.

**SpriggHR:** A skill is a specific ability that an individual possesses. A skill is typically applied in a specific setting to accomplish a predefined desired result. Skills can be learned through training or by experience. Skills are also performed at varying levels of expertise, sometimes based on years of experience and/or an assignment or role performed within a given project. It is common to hear a skill being referred to as 'the what' component of completing a task. A competency is a broader concept that combines skills, knowledge, and behavior. While competencies may include a specific skill, they are more than just that skill alone. It is common to hear competencies referred to as 'the how' component of completing a task.

**Western Governors University:** Skill is a word or short phrase that communicates discrete, discernable value that an individual can acquire or demonstrate.

## SKILLS-DENOMINATED CREDENTIALS (SDCS)

**Western Governors University:** Relevant: Credentials are representative of the most high-demand competencies and skills in the labor market. Verified: Credentials represent the verified validation of learner demonstration of skills and competencies. Portable: Credentials are issued in open data standards allowing for the seamless portability of credentials between organizations.

## SKILLS ECOSYSTEM

**Boyer, Ed Design Lab:** Term popularized with the advent of skills-based hiring. Skills-based hiring is hiring for skills required for a particular job role. Employers are trying to match their existing employee talent to new job positions and fill them with new employees. But that is proving to not be so easy. In the past, many employers used the college degree as a proxy for the ability to do the job—for perceived skills that have been achieved. But using the degree is not a very precise way of hiring.

## SPECIALIZATION (MICROCREDENTIAL)

**Western Governors University:** A program of (6+) verified competencies, with a clear market value designed to prepare the learner for an array of specified jobs, skills and task sets within a professional sector or academic domain. Specializations are a sub-component track or path of a degree program.

## STACKABLE CREDENTIALS, STACKABLE DEGREE PROGRAMS, STACKABILITY

**Bailey & Belfield, Community College Research Center, Teachers College,**

**Columbia University:** Stackable credentials—sequential postsecondary awards that allow individuals to progress on a career path—can enhance the labor market prospects of middle-skill workers.

**Ed Working Paper 20-4317 Brown University (Meyer, Bird & Castleman):** The pattern of multiple credential accumulation—earning two distinct and sequential postsecondary credentials—is referred to within the higher education sector as “stacking” credentials.

**EdX:** Modular learning chunks used to create a traditional learning package, like a master’s degree, is called stackable learning. Certificates and credentials earned in edX programs are “stacked” together to form a larger credential or degree.

**Freedman & Le Blanc, Inside Higher Education:** For many students, being able to earn while they learn is the key to eventually completing a degree. In that spirit, short-form programs must function not as dead ends but as on-ramps to eventual degrees and a better life. That’s why the future is stackable. Short-form programs are here to stay, and they must build on each other so that shorter chunks of learning are able to count for college credit and allow learners to stack credits upon each other to form a degree. Embracing this doesn’t just help with a short-term imperative about adding skills to our workforce. It eliminates the either-or distinction and the potential downsides to short-form credentials that give adult learners pause.

**Jobs for the Future (JFF):** To assist students in the attainment of progressively higher credentials, many colleges are establishing stackable certificates and certifications where curricula is modularized and aligned with credentials that are valued in the labor market. Stackable credentials break down competencies into smaller “chunks” of learning. Each discrete credential builds on the previous one, enabling students to develop skills that help them find a job quickly, but also creating an easy access point for reentry if students choose to continue on for a more advanced credential or degree. Many stackable credential frameworks begin with a noncredit certificate as the lowest-level credential and progress to a for-credit certification or a degree.

**Stackable Credentials in Career Education at California Community Colleges:**

Stackable credential pathways consist of multiple, sequential awards that either allow students to earn successively higher-level credentials (“progressive” programs) or build a “lattice” of interconnected credentials.

**Thirdway:** Short-term programs may or may not be “stackable,” meaning that once a student earns a certificate, they can use it for credits toward a degree, should they choose to do so. A credential may also be considered stackable if multiple credentials are building a set of skills and may lead to a certification. The idea behind stackable programs is that students can earn a credential that allows them to immediately go into the workforce, but also return to earn a higher-level degree (or another credential) that will further increase their employability and earning potential.

**US Department of Labor:** Stackable Credentials are part of a sequence of credentials that can be accumulated over time to build up an individual’s qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs. Stackable credentials can be viewed as building blocks where each short-term credential that a person earns builds into a higher-level credential. There are 4 types of stackable credentials:

- Traditional or progressive stackable credentials follow a linear path where a student earns a short-term credential (e.g., certificate) and continues their education by pursuing a higher-level credential (e.g., associate’s and/or bachelor’s degree). Supplemental or value-add stackable credentials do not follow a linear path, but still allow a student to enter and exit the higher education system as needed. A ‘supplemental’ stackable credential is when an individual may have already earned a bachelor’s degree, then attends a bootcamp to learn additional skills to supplement their degree.
- Independent stackable credential is when an individual accumulates multiple credentials but does not pursue a degree. In this case, an individual’s certifications build on one another and the individual acquires skills that craft a path forward in their career, but they do not ‘ladder’ into a singular degree pathway.
- Work-based learning, apprenticeships, and employer-sponsored training combine on-the-job training with formal educational instruction. For example, stacked apprenticeships are shorter-term programs where individuals pursue a series of related apprenticeships to build on their skill set. An individual participating in an industrial manufacturing technician apprenticeship program could learn how to operate production equipment, and then pursue additional manufacturing opportunities to learn more related skills.

**Varsity Tutors:** Stackable degree programs are programs that lend themselves to building into other degree programs. Instead of viewing degree programs in a traditional way, stackable programs utilize certificates and other nontraditional ways of measuring and acquiring knowledge. While a degree is valuable, stackable degree programs tend to place more emphasis on acquiring a chunk of knowledge. The idea is that such degree programs provide units of education more likely to stand alone, even outside the degree program. Within the degree program, they create context within existing college programs. By combining certificates and other units of stackable knowledge, colleges create degree programs.

**Western Governors University:** Stackable is the ability to combine offerings (competencies, courses, micro-credentials) towards aggregated achievements and credentials.

## THEORY OF ACTION FOR INCREMENTAL CREDENTIALING

**Credential As You Go (2022):** That, (1) incremental credentialing helps students (especially equity groups) with credential attainment, (2) incremental credentialing leads to better employment and continuing education, (3) incremental credentials need to be nationally recognized across the learn-and-work ecosystem, (4) Incremental Credentialing Framework (strategies) can help higher education institutions and other credential providers develop transparent incremental credentials, (5) all learning (internal and external to the institution) can be credentialed through higher education.

## UNBUNDLING LEARNING, UNBUNDLING EDUCATION, REBUNDLING

**Czerniewicz, EDUCAUSE:** Unbundling is the process of disaggregating educational provision into its component parts, very often with external actors. Rebundling is the reaggregation of those parts into new components and models. Both are happening in different parts of college and university education, and in different parts of the degree path, in every dimension and aspect—creating an extraordinarily complicated environment in an educational sector that is already in a state of disequilibrium.



**EdX:** We unbundle the traditional learning “packages”—associate’s, bachelor’s, and master’s degrees—into more manageable learning chunks that are also tied to real career and life outcomes. This is what we call modular learning, and it’s the foundation of all the programs available on edX.

**Peopledesign:** Education can unbundle and repackage offerings into new categories where people derive the most value. This is already happening in nearly every other industry (Amazon unbundled physical stores from retail, Netflix unbundled movies from theaters, Spotify unbundled music from ownership). To unbundle education services, think about education in terms of hard and soft skills, academic and social activities, mentorship, and leadership—and consider three lenses for education: technical skills, people skills, and thinking skills.

## WORKFORCE CERTIFICATE, WORKFORCE CERTIFICATIONS

**Ivy Tech Community College of Indiana:** Workforce certification validates quality instruction and curriculum, and provides a third-party measure of students’ technical skills. Employers benefit from simplification of the employee screening and selection process; greater employee knowledge and improved productivity; increased ROI by quantifying course outcomes. Employees benefit through improved and validated skills; improved employment/advancement opportunities and earning potential; enhanced professional credibility; earned college credit which can be applied toward a certificate or degree; differentiated skills during hiring process.

**Thirdway:** A pay-for-performance model in which students pay one-third of the cost and the state covers the next two-thirds: one when the student completes the program and the final third when the student completes a workforce certificate after the training (see Virginia’s New Economy Workforce Grant).

