



AACRAO

**ALTERNATIVE CREDENTIALS:
CONSIDERATIONS, GUIDANCE,
AND BEST PRACTICES**

**ALTERNATIVE CREDENTIALS
WORKGROUP REPORT
2022**

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EXECUTIVE SUMMARY

AACRAO established the Alternative Credentials Work Group in 2021 in response to a rapidly evolving interest and movement in alternative credentials, namely micro-credentials and digital badges across higher education, the country and the globe. This interest was coupled with a current lack of guidelines and requirements for alternative credentials from accrediting bodies and other associations. The group's charge was to provide campus guidelines and best practices for alternative credentials, primarily micro-credentials and certificates, and specifically to:

- create broader awareness among institutions of higher education of micro-credentials and certificates
- create future consistency and meaning of these credentials by providing definitions and parameters
- establish best practices in the offering and issuance of alternative credentials so that their portability and acceptance is maximized for the learner
- identify the considerations an institution should have of launching and maintaining a successful micro-credential initiative or program.
- highlight the important role the registrar (and admissions officers) can/should play in their campus micro-credential initiatives/programs

Specific considerations outlined in the charge included minimum/maximum standards for credit and non-credit based credentials; target audiences; learning outcomes; alignment with workforce or professional standards; proposal/approval protocols; budget and vendor considerations; academic record and SIS impacts; assessment; and digital/open standards.

In this report certificates, either official (transcribed) or unofficial (not transcribed), are referenced mainly for purposes of comparison to the newer *micro-credential programs*, in terms of size, type and credentialing. The primary focus of this report will be on micro-credentials and digital badges since those are rapidly evolving, and many institutions have not yet established standards or protocols for them.

The considerations, guidelines and best practices documented throughout this report were written from the lens of and intended for admissions, enrollment management and registrar professionals. This is important to note because establishing comprehensive and quality micro-credential program initiatives involves many campus stakeholders, namely faculty and others who have innovative ideas as well as the best interest of learners driving their decisions.

The report breaks down these considerations and best practices into sections focusing on:

- **What** Establishing common definitions and standards for alternative credentials
- **Why** Aligning alternative credentials with institutional mission and priorities
- **Who** Determining populations: Campus stakeholders, credential providers, learner populations
- **How** Establishing administrative infrastructure, standards, and support for a successful implementation
- **Where** Identifying places where micro-credentials and digital badges may be recorded and shared
- **When** Timing the award of digital badges to foster their relevance and usefulness to learners

The Alternative Credentials work group was comprised of a core group of AACRAO members representing diverse institutional types, positions, and geographic locations:

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In addition to the AACRAO workgroup members and contributor, industry partners from the American Council on Education (ACE), Educational Credential Evaluators (ECE), IMS Global, and University Professional and Continuing Education Association (UPCEA), shared their professional experience and expertise to assist in the creation of these best practices and workgroup report.

DEFINITIONS

To aid in a common understanding, the following is a list of terminology utilized in this report:

- **Alignment:** The alignment field can be used to describe any objectives or educational standards to which a digital credential (such as an Open Badge) can be aligned. A badge can be aligned to recognize academic or professional standards and competency frameworks. A badge aligned to recognized standards is easier for badge consumers (e.g. hiring managers) to find and understand, which adds value for badge earners, consumers, and issuers. The contents of the alignment field should consist of a URL/URI that points at an element of an educational or professional standard, or at a competency definition used by multiple organizations. This will ensure alignments are machine-readable (Badge Wiki).
- **Alternative Credentials:** Non-traditional (non-degree) credentials offered by institutions of higher education may include a myriad of credit alternatives including Massive Open Online Courses (MOOCs), micro- credentials (badges), credit- or non-credit bearing certificate programs and various other opportunities. Typically issued in a digital format.
- **Artifact:** An object that is issued to learners upon successful completion of a program, demonstrated accomplishment or skill, including diplomas, digital badges or certificates.
- **Assertion:** An assertion is the actual digital credential or claim the earner receives and serves as the record of their achievement. In addition to containing all the general information of the badge class (data that is common to all instances of the particular badge), the assertion contains all the information that makes it a unique instance of the badge, e.g., the identity of the badge recipient, and optionally a link to evidence, a narrative, and an expiration date. (badge.wiki)
- **Assessment:** A process that ensures appropriate rigor and expertise to evaluate a learning activity to determine to what extent learning may have occurred.
- **Authority:** The governance structure that stands behind a credential; these may include (but are not limited to) state education agencies, accreditors (institution and program-level), and a specific college or department within an institution.

- **Certificates:** Certificates are academic programs (undergraduate, graduate or professional levels) based on a free-standing body of knowledge, often interdisciplinary in nature. They typically have a minimum number of credits, and are smaller than major programs of study. Completed certificates typically are recorded in academic records and displayed on transcripts. Note: Some campuses may offer unofficial certificates that do not meet the criteria for inclusion on transcripts. In some cases, these may be reconsidered and offered as micro-credential programs.
- **Comprehensive Learner Record (CLR):** A CLR is an official document that seeks to capture, record, and communicate learning when and where it happens in a student's educational experience. This includes learning outcomes from courses, programs and degrees, as well as experience they have outside the classroom that help develop their career ready skills and abilities. A CLR may contain one or more other credentials (badges, degrees, certificates, courses, experiences, etc.) that have been validated and recorded on behalf of the student. CLRs are a type of Learning and Employment Record (LER). See AACRAO's Implementation of the IMS Global Comprehensive Learner Record Standard: A Practical Guide for Campus Personnel.
- **Consumer:** The audience who consumes credentials displayed by earners. Consumers can include employers, peers, offices of admissions, and other stakeholders.
- **Criteria:** Criteria are all of the detailed requirements that a learner had to meet in order to earn a given badge. A badge may be associated with multiple criteria, and the criteria may specify the evidence needed in order to demonstrate that criteria was met. Criteria should be measurable. (Badge Wiki)
- **Badges (Digital):** Online representations that recognize skills, achievements, membership affiliation, and participation. Open Badges are a type of digital badge.
- **For-credit:** Courses or other learning experiences resulting in a learner earning academic credit which displays on an academic transcript upon completion.
- **Immutable:** A record may not be altered without evidence of tampering.
- **Issuer:** The name of the individual, entity, or organization issuing the badge. (Badge Wiki)
- **Learner:** A more inclusive term than "student," which connotes a more traditional person or environment for learning.

- **Learning and Employment Records (LER):** A generic term to describe digital spaces designed to help learners display their credentials and achievements. According to [Jobs for the Future](#), a LER is “a comprehensive digital record of a worker’s skills and competencies. LERs can document learning wherever it occurs, and they may include records of people’s credentials, degrees, and employment histories.” Badge backpacks, learner wallets, and Comprehensive Learner Records (CLRs) are all examples of LER solutions.
- **Learning Outcomes:** Measurable assessments and standards that articulate what earners have learned or can demonstrate upon completion of a credential.
- **Metadata:** Described as “the guts” of a digital badge which provides information regarding the requirements a learner demonstrated to earn the credential along with evidence of completion. Metadata, at a minimum, should include information regarding the learner, the issuer, the purpose of the credential. ([Credly](#))
- **Micro-Credential:** A competency or skills based recognition that allows a learner to demonstrate mastery and learning in a particular area ([Digital Promise](#)). A micro-credential is generally a subset of learning achievements or outcomes that is less than a full degree or certificate. A micro-credential offered by an institution of higher learning should be asserted by a recognized campus authority.
- **Not-for-credit:** Courses or other learning experiences that do not result in a learner earning academic credit, and which do not typically appear on an academic transcript, yet may be recognized through other means.
- **Open Badge:** A type of digital badge, open badges conform to the Open Badges standard, and can serve as portable credentials containing metadata that offer detailed information about the achievements being credentialed. Open badges contain metadata which provides additional information about the credential and how it was earned.
- **Open Standards:** Standards, intended for widespread adoption, made available to the general public in order to facilitate interoperability and data exchange among different products or services ([Wikipedia](#)). Note: The Open Badges standard referenced above is an example of an open standard from IMS Global.
- **Portable:** Easily shared or transferred; digital credentials, especially, are designed to be accessible on demand to the learner, and easily uploaded or downloaded into other systems, documents, or media.

- **Requirement:** The learning experiences (courses, professional development, seminars, field studies, labs, portfolios, etc.) a learner must complete to earn a credential. Requirements may be included in criteria.
- **Self-Sovereignty:** The ability of a learner to control the sharing of their credentials without a required intermediary (i.e., registrar's office), while maintaining trust.
- **Stackable:** A modular approach in which credentials are designed to be combined or sequenced with other credentials, often in learning pathways.
- **Trust:** The consumer's belief that the credentials received have value (governance), are validated (true), are associated with the learner (identity) and are unchanged (immutable).
- **Validation:** A process that ensures that the results of an assessment are legitimate and conform to expected standards specific to that activity.
- **Verifiable:** Confirmation that a credential is authentic, accurate, and legitimate and has been awarded by an institution to a specific learner. Verifiable credentials can protect against credential fraud and increase trust in the credential being awarded. Through the use of structured data, credentials can be verified and displayed in a consistent way (**Badgr**).
- **Verifiable Credentials:** A standard for exchanging and proving ownership of digital documents including government, health and education records. Open Badges and the CLR Standard can be transmitted as Verifiable Credentials

WHAT: Establishing common definitions and standards for alternative credentials

The interest and early adoption of micro-credentials and badges are coming out of higher education institutions, non-profit organizations, private industry and government entities. With an estimated 1,000,000 unique credentials in the United States alone, and over 43,000,000 Open Badges issued to earners (**Credential Engine**), the number of micro-credential programs being offered and digital badges being issued has been on a sharp rise, even without common definitions, standards or utility. However, until recently, there have been few efforts to establish consistent definitions, standards and values of these credentials across the various sectors.

Within the higher education sector, the composition and quality of academic degrees, majors, and even minors, have long been clearly defined and even regulated through institutional policies, state departments of education, and regional accrediting bodies. These conventional credentials are what have historically been used to verify and validate learning achievements of broad bodies of knowledge. As such, they have resulted in clearly established policies and standards for their development, approval and issuance by colleges and universities.

Since the late 20th century, assumed practices and generally-shared definitions for academic, credit-bearing certificate programs also have taken form. While certificates have become fairly mainstream in recent decades, they are still often considered to be in the realm of alternative credentials. This is because they are smaller than other academic credential programs in terms of the number of required credits, and because they may be offered as stand-alone programs (unlike academic minors, which may only be earned in conjunction with a degree). Most institutions that offer academic certificates have developed formal policies or guidelines for units to propose and offer them at the undergraduate and/or graduate levels.

DEFINING MICRO-CREDENTIALS:

In its 2021 report on establishing a common definition for micro-credentials, **UNESCO** referred to the larger subset of diplomas, degrees and even certificate and licensure programs as 'macro-credentials.' Another subset of credentials that have been added to the expanding ecosystem of credential types in recent years is 'micro-credentials.' UNESCO refers to micro-credentials as focused on specific sets of learning outcomes in narrow fields of learning. They are achieved over shorter periods of time, offered for a variety of purposes, and issued by different provider types, including professional bodies, traditional education, private industry and other types or organizations.

It is not uncommon to hear the terms micro-credentials and badges used interchangeably. **For purposes of this report micro-credentials or micro-credential programs will be used to refer to the structured program or experience designed for learners to gain knowledge and competencies in very particular or tailored subjects. Badges or digital badges refer to the artifact issued to students upon successful completion of a micro-credential program or demonstrated accomplishment or skill.** Put another way, a badge is to a micro-credential program what a diploma is to a degree program.

Issuing digital badges for credit-based and non-credit micro-credentials alike expands the types of learning that may be developed by campus experts for different types of learners. Regardless of whether they appear on the transcript, micro-credentials allow our institutions to offer our recognition of learners' skills and accomplishments in ways that are verifiable and trusted by internal and external consumers alike.

One characteristic which sets micro-credentials apart from other types of formally-recognized and awarded credentials is how they are often delivered as non-credit-based learning opportunities. This is demonstrated by the rapid growth of badge issuance in private industry and non-profits, but certainly does not exclude the academy from offering them. The non-credit option adds to both the flexibility and complexity of creating micro-credential programs at colleges and universities. Historically, non-credit 'certifications' were often not approved through formal university channels, nor were they recorded in systems or credentialed in such a way that they could later be verified or easily reported. Students and other types of learners may have been issued a paper certificate or issued a non-credit transcript. Issuing digital badges for credit-based and non-credit micro-credentials alike expands the types of learning that may be developed by campus experts for different types of learners. **Regardless of whether they appear on the transcript, micro-credentials allow institutions to offer recognition of learners' skills and accomplishments in ways that are verifiable and trusted by internal and external consumers alike.**

In making the determination as to what will be offered in the alternative credentials ecosystem, **institutions must determine the types of experiences, knowledge, skills, and/or achievements obtained with credential completion.** In many cases, the **demonstration of a competency or assessment will be required.** For example, a series of credit-bearing courses on an element of project management with a final project or presentation may be a candidate for a stackable graduate certificate. However, institutions may also be open to issuing recognition badges for participation in an event, such as a completion of a non-credit professional development speaker series on conflict management.

BEST PRACTICE: The types of credentials and programs an institution awards should be clearly identified and defined, including how they might fit together. These credentials may include:

1. Degree programs (Majors)
2. Certificates
 - a. Undergraduate
 - b. Graduate
 - c. Professional
 - d. Non-credit based
3. Micro-credential programs
 - a. Credit-based
 - b. Non-credit based

While not considered stand-alone credentials, minors and program tracks/options should also be clearly defined in institutional policy and distinguished from certificates and micro-credentials. In addition, **when and how credentials may be stacked together should be included in institutional guidelines**. Policies should be developed if non-credit offerings may be expanded into credit-based credentials, or if students may convert non-credit micro-credentials into for-credit courses with additional content, assessment and/or fees.

BEST PRACTICE: In addition to the various credential types being clearly defined, the actual artifacts issued to learners upon completion – be they material or digital or both – and which correspond with the various credentials must also be clearly delineated. They may include, but are not necessarily limited to:

- Diplomas
- Certificates
- Digital Badges

BEST PRACTICE: A published list of approved alternative credentials as well as clearly outlined definitions and descriptions for each type of officially-recognized credential offered should be maintained in the university's catalog and/or other archivable documents.

STACKABILITY:

Another term commonly used in the alternative credentials space is 'stackable.' Certificate programs are increasingly being designed to not only be embedded in degree programs as value-added credentials to students, but may even be strategically 'stacked' to lead to macro-credentials, such as degrees. An example of stacking includes three specific graduate certificates leading to a master's degree in a given discipline. Similarly, credit-bearing micro-credential programs may be designed to be stackable and lead to a certificate program. In addition, stacking of non-credit learning experiences is increasingly being explored for transfer or degree application through prior learning assessments.

Credential stacking may be developed in the following ways (**Inside Higher Ed**):

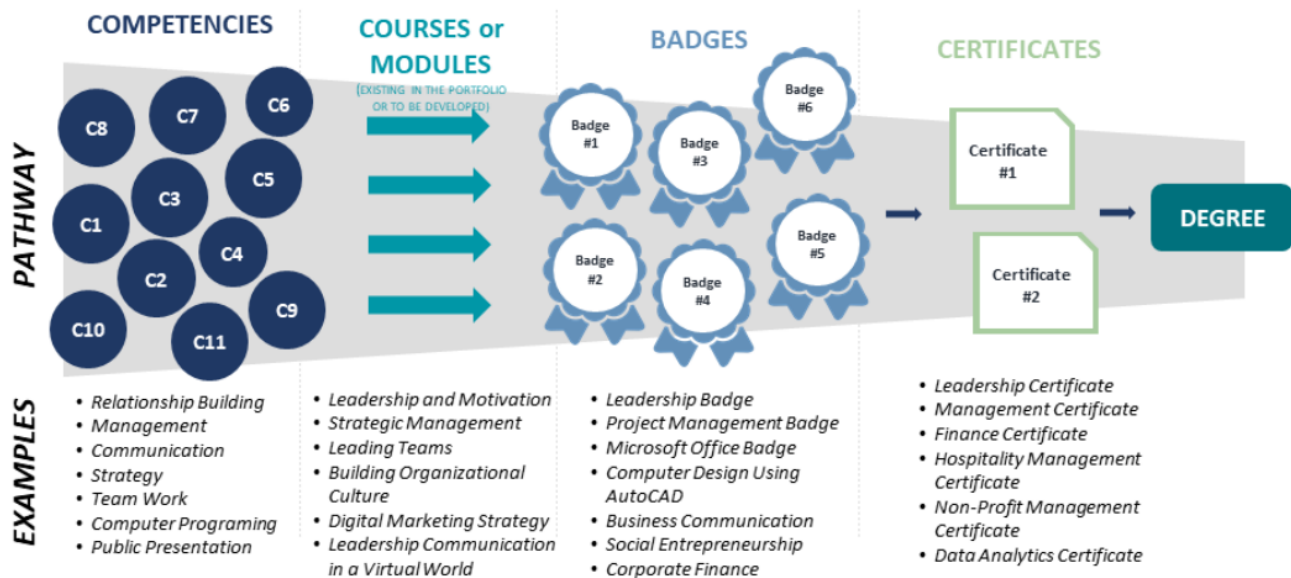
- Vertical Stacking (traditional): Credentials are stacked in an ordinal hierarchy
 - Micro-credentials > Certificates
 - Certificates > Degrees
- Horizontal Stacking: Subject matter is connected with no ordinal hierarchy. Instead, a collection or accumulation of credentials to customize a defined content area.
- Value-added Stacking (blended): Add areas of expertise after a credential without the need to achieve a next ordinal credential.

The graphic below, developed by UPCEA, describes a proposed learner model which builds upon non-credit bearing activities leading to eventual credit-bearing certificate or degree attainment.

BEST PRACTICE: Determine if levels of credentials may be stacked to lead toward larger credentials. Examples include micro-credentials being stacked toward a certificate, and certificates being able to be earned either as stand-alone credentials or stackable toward a degree. If stackable, must they be completed in a sequential order? In other words, are they prerequisites for other alternative credentials? Consider opportunities for recruitment and retention of new learner markets that come with offering smaller, stackable credentials.

A Model for the Future? A Stackable Credentials Pathway

A stackable credentials pathway allows for competencies to be converted into courses that build up into for credit or non credit programs



Graphic Courtesy UPCEA, "An Update on Microcredentials and Digital Badges," September 2020

DIGITAL FUNCTIONALITY, PORTABILITY AND SECURITY:

To fully appreciate the opportunities that digital credentials provide learners – be they for degrees, certificates or micro-credentials – is to understand what sets them apart from traditional paper diplomas and certificate documents. Most, if not all, digital credentials are designed to be secure, clickable and portable. Upon verification of requirements and awarded by an institution, digital credentials are shared with a learner by the institution via email and often through the technology of a third-party vendor. The learner may then further share them with others (such as employers), share them to social media platforms (such as LinkedIn), and/or include links to them in electronic resumes and CVs.

When a consumer clicks on the digital credential link, they may be exposed to rich metadata which adds context to the assertion. Additional considerations and best practices are listed in the “How” section of this report. In the case of digital diplomas or certificates, this metadata may include dates issued, program descriptions, competencies, requirements and learning outcomes, among other criteria. Digital badges may include much of the same, as well as additional (optional) information, such as whether the micro-credential program is credit- or non-credit based, if it is aligned to national or industry standards or frameworks, evidence of how the learner met the earning criteria, and if the credential has an expiration date.

Finally, digital credentials offer a level of trust and security not matched by paper documents. Similar to encrypted PDF transcripts, trust in digital credentials is enhanced by including measures that insure its contents have not been altered (immutable) since being issued by an institution. PDF transcripts typically include encryption (e.g. Adobe), algorithm and stored key on the network. Digital credentials, including badges, require the same trust methods and practices to distinguish them from credentials that are only self-asserted or worse, fraudulent.

BEST PRACTICE: Educate campus stakeholders on opportunities for collecting and exposing as much metadata as possible to help learners and consumers understand the type of credential earned, the learning that took place, along with the competencies, requirements and other criteria.

BEST PRACTICE: Ensure that authority and trust features are properly established within the digital credentials issued to a learner. The sharing of digital badges or other alternative credentials via social media must be established through a chain of trust (integrity, validity, identity and authority). In addition, it is important to know the authority behind the credential (degree, certificate or micro-credentials) awarded by an institution.



WHY: Aligning alternative credentials with institutional mission and priorities

Institutional leaders increasingly are finding themselves being asked about their plans to diversify their modalities, learner populations and course and program offerings. Interest in alternative credentials, namely micro-credentials, is coming from a variety of sources, including faculty, staff, regents/trustees, system leaders and/or state government officials. Less clear or not as well documented is how frequently matriculated students or other prospective learners are seeking or demanding more opportunities to pursue alternative credentials, but their popularity is growing.

Regardless of who is asking or applying pressure, conversations around micro-credentials and badging are pervasive in many higher education communities. This is evidenced by the increase in articles, conference sessions, task forces, national and international discussions, and outreach being done on this topic.

Campuses must be able to clearly articulate the reasons for and value of micro-credentials in order to make a compelling case for faculty and other campus stakeholders to develop them, as well as to attract learners to pursue them. Institutions should evaluate the return on investment in determining if these are the right types of credentials for their campus. This may include assessing if the appropriate subject/learning outcomes, delivery modes and timing of credentials have been identified. The benefit of certificates and micro-credential programs for learners has become more widely recognized within higher education and in industry. They present opportunities to matriculated students for value-added learning experiences that have not been traditionally transcribed or credentialed. Many such experiences have long existed through co-curricular activities, field experiences, service learning and professional development. However, it has been up to learners to include and explain these experiences on their resumes, and they typically have not been easy to verify through a trusted source, the institution.

In addition, alternative credentials are increasingly being viewed as a path to more attainable and accessible education and skills development. Because of their brevity and presumably low costs, they have the ability to reach underserved populations of learners, including those who desire or need, but who cannot afford the cost or time commitment of a traditional degree program, particularly if they are offered in a self-paced or other flexible format and modality. Matters related to technology and accessibility are important considerations when offering alternative credentials to underserved populations of learners.

On some campuses, decisions to explore or implement micro-credential programs are being made proactively through organized strategic initiatives and carefully-selected campus partners. Other campus efforts have been more reactive as campus leaders rush to catch up with units and/or faculty who have independently already begun awarding digital badges. It is imperative that existing institutional governance structures – including faculty governance, if applicable – be leveraged to ensure that learning being asserted through alternative credentials has been appropriately assessed and determined of value. This also upholds the integrity of credentials that bear the institutional name or brand.

Whether as part of a strategic plan or a more laissez-faire approach, it behooves campus leaders who decide to enter this space to establish a philosophy and approach as to why, by/for whom, how micro-credentials may be developed, and determine success metrics to know whether the implementation approach has been successful. After all, verifiable and portable digital credentials that are issued to micro-credential program completers will bear their institutional brand.

It is important to balance support for innovation and early adoption with that of strategy and structure that will help campuses explain, defend, report on and promote their micro-credential programs.

BEST PRACTICE: Campus innovators, influencers, decision-makers and administrators should come together to discuss the following questions as they related to alternative credentials, namely micro-credentials:

What are the motivating reasons to consider offering micro-credentials?

- How do alternative credentials fit within the overall institutional mission and strategic plan?
- Will they help expand campus brand and/or reputation?
- Are there viable new learner markets that may be interested in earning micro-credentials?
- Should matriculated students have access to these new value-added learning opportunities?
- Are there significant learning opportunities and experiences currently taking place which are not being formally recognized because they don't meet standards for traditional academic credentials, including certificates?
- Are competitors offering micro-credentials?
- Has interest in micro-credentialing and badging been expressed by faculty, staff, students and other types of learners?
- What are the value propositions for various stakeholders, including campus units offering micro-credentials, learners, and consumers (such as employers)?

What steps can be taken to ensure the creation of new micro-credentials will not dilute the credential ecosystem?

- Are micro-credentials frameworks consistent?
- Are the experiences, skills, and competencies being credentialed meaningful?
- Can consumers trust earners were assessed against measurable criteria?
- Are the micro-credentials worthy of the institutional brand?

- Can the current infrastructure, resources and bandwidth promote and support such programs?
 - Should oversight for micro-credential administration be centralized or decentralized? Why?
 - If centralized, what are the roles of enrollment management offices, registrars, and admissions offices in this structure?
 - Are additional human resources needed to implement and sustain a micro-credentials initiative?
 - Are new revenue-generating opportunities being sought, such as with corporate or community partnerships?
 - What is the financial model for credit-based micro-credentials? Will departments offering micro-credentials receive revenue or compensation?
 - What is the financial model for non-credit micro-credentials? Should the micro-credential initiative be revenue neutral? No cost to learners?
 - What change management initiatives will take place to ensure such programs are successfully launched?

Knowing and being able to articulate why a campus wants to offer micro-credentials is key to demonstrating commitment to a successful implementation, which will aid in recruiting champions and attracting early adopters. These questions need to be addressed by the appropriate collection of individuals in order to establish the structures and secure commitment to the resources necessary for a successful program implementation and long-term viability.

WHO: Determining populations: Campus stakeholders, credential providers, learner populations

There are at least four general populations that should be considered when implementing a micro-credential program on a college or university campus. These include:

- The **campus stakeholders**, including key administrators, to involve in initial feasibility brainstorming and strategizing on alternative credentials;
- The campus officials and **credential issuers or providers** who will be authorized to develop and offer micro-credential programs;
- The **learner populations** who will benefit from these new learning opportunities;
- The **Consumers** of alternative credentials.

CAMPUS STAKEHOLDERS:

First, some campus initiatives are being borne out of the convening of curious, innovative individuals who either have new ideas for micro-credential programs, or who are already providing interesting opportunities for learners that are not documented or credentialed in traditional, verifiable ways for completers. While creative minds may be the basis for dynamic and progressive alternative credential programs, it is incumbent upon the university to also involve administrators with the expertise necessary to help establish sustainable institutional frameworks and processes. Having a centralized model for all interested campus stakeholders to follow will help ensure the effort is organized, consistently-applied and inclusive of all who wish to experiment in this space. This group can begin the exploration on the sustainability and scalability of the alternative credentials and whether additional staffing, budget, or technology resources will be needed for a successful implementation.

Key campus stakeholders should include, but are not limited to decision makers from the following offices:

- Campus Administration: Any initiative that places the institution in the public eye in an accountable and visible manner should be reviewed and supported by the executive leadership of the campus. It also will provide means to have a unified approach and achieve alignment among the various stakeholders.
- Academic Affairs
 - Engage faculty and academic administrators in exploring existing or new credit- and non-credit alternative credential opportunities in schools, colleges, programs, and libraries. Determine if any incentives will be offered for the development of alternative credentials.
 - Determine how to inform and train faculty members on the types of alternative credentials and how to engage in effective implementation within their departments or disciplines.
- Office of Admissions
 - Determine whether there should be a formal application process for alternative credentials, including certificates and micro-credentials, and if there is a difference between processes for non-credit and for-credit credentials
 - Identify if admissions or departments offering alternative credentials will be responsible for marketing and recruitment
 - Determine whether earned alternative credentials should be considered as part of the admissions review process, and if so, create instructions for applicants and define how the alternative credential will be included and considered.

- Office of the Registrar
 - Implement systems and procedures for proposing, approving, building and tracking alternative credentials
 - Determine how the certification and awarding of the alternative credential will occur
 - Establish validation processes consistent with professional registrar and admissions standards that allow and encourage learners, employers, and the public to trust the credential
 - Identify how to publish approved credentials as well as maintain an archive of earned credentials
 - Delineate what is recorded and where it is managed (SIS, data warehouse, etc.)
 - Determine the appropriate status of various types of learners of alternative credentials
 - Consider impacts to special populations of prospective learners, including student athletes, international students, and learners receiving veteran's benefits
 - Decide if alternative credentials are to be published in the university catalog
- Office of Financial Aid
 - Determine whether the credentials are aid eligible, and if so, what status the learner must have to be eligible.
 - For degree-seeking students, determine if/how credentials affect Satisfactory Academic Progress.
- Institutional Reporting
 - Determine how alternative credentials should be reported to institutional leadership and within the campus community, and which information and data collected will be utilized.
 - Determine if and how alternative credentials should be reported to state and federal agencies, the National Student Clearinghouse, accrediting bodies, etc.
- Marketing and Communications
 - Determine and develop appropriate advertising and marketing strategies. Consider the creation of consistent branding, messaging, and terminology to utilize in advertising and marketing of the alternative credentials.
 - Decide if alternative credentials are to be published on department and/or institutional websites
 - Identify the entity responsible for creating the visual representation, design, and style guide of the digital badges.
 - Ensure marketing clearly distinguishes non-credit from credit and sets expectations for what the learner will take away from the experience.
 - Contribute to internal and external communications strategies to engage specific stakeholders. Determine who will communicate with both internal and external audiences.

- Student Affairs
 - Identify key student support service departments interested in offering non-credit micro-credentials. For example, opportunities for co-curricular learning experiences for resident assistants or for professional student affairs staff who may engage in additional training.
 - Engage career services professionals in promoting alternative credentials earned by students to future employers
- Budget and Fiscal Planning
 - Determine appropriate cost models for various types of alternative credentials (revenue generating, revenue neutral, or no cost)
 - Determine how charges will be applied and collected for both non-credit and for-credit micro-credentials. Decide if the micro-credential charges are included as part of tuition (for degree-seeking students), if the charges are included in other program costs, or if the charges are paid by a third-party organization or employer of the learner who is seeking the micro-credential.
 - If revenue is generated from a micro-credential, determine how those funds are allocated
- Continuing Education or Extended Studies
 - Explore developing and offering alternative credit- and non-credit credentials, especially to non-degree students, community members and other campus partners.
- Office of Information Technology
 - Determine role of institutional technology services in implementing and supporting systems to offer and award micro-credentials.
 - Identify and discuss various technology considerations such as systems integrations, single sign-on (SSO) implementation, accessibility review, information and data security, and data privacy.
 - Participate in the procurement process of software for issuing digital badges.
- Human Resources
 - Explore opportunities for micro-credentials to be awarded as part of training, upskilling, and professional development programming for employees, including student employees.
 - Determine whether earned alternative credentials should be considered as part of the hiring process, and if so, create instructions for applicants and define how the alternative credential will be included and considered.

BEST PRACTICE: Involve appropriate campus stakeholders in the strategic development and implementation of alternative credentials. The various roles and responsibilities of campus partners need to be clearly outlined and defined at different stages of discussions and initiatives.

BEST PRACTICE: Involve senior leaders whose support and championship may be vital to change management and successful implementation. When leaders lend their voices to the effort, it can offer valuable word-of-mouth validation and serve as internal marketing.

CREDENTIAL ISSUERS:

Next, an important determination that must be made early in the process is who on campus can propose and offer alternative credentials. It is naturally assumed that academic units, being the provider of credit-based programs of study, will continue to develop academic certificates and expand their interest in the newer micro-credential programs. Ideally, campus leaders will encourage, but not require alternative credentials be issued by academic units.

Non-academic units are typically not authorized to offer credit-based credentials. However, they are key in the development and expansion of non-credit micro-credentials that provide co-curricular learning experiences, skills training, professional development, experiential learning and supplemental instruction. Potential opportunities for non-credit micro-credential program development are as vast and diverse as the number and type of non-academic units on a campus. They include, but are not limited to: student affairs, information technology, human resources, facilities, campus safety, diversity and inclusion offices, centers for teaching and learning and continuing education/extended studies.

With academic and non-academic units alike, appropriate governance structures need to be identified and/or established in order to thoroughly review and make decisions about micro-credential programs. One model is to leverage existing curricular approval structures for micro-credential proposals coming out of academic units, even if they are for non-credit based programs. For proposals coming out of non-academic units, such as student affairs or human resources, the concept of such approval protocols may need to be established with decision-makers identified at the department and/or divisional levels. Another option is for such micro-credential programs to be 'sponsored' by an academic unit that has existing governance structures. These efforts will help to ensure transparency within the units and may lead to more support of such programs, financial or otherwise.

BEST PRACTICE: Allow both academic- and non-academic units to issue alternative credentials. Certificates and credit-based micro-credentials should be limited to academic units, while non-credit micro-credentials may be popular programmatic offerings from academic and non-academic units alike based on content, delivery and intended target population.

BEST PRACTICE: Determine business processes or guidance that will support units offering micro-credentials in change management and implementation. Processes may include how learners declare for or enroll in micro-credentials, tracking systems for progress monitoring learner progress, and the steps to actually issue digital badges. Non-academic units, in particular, may need resources and recommendations to aid in proposing and implementing high quality programs.

LEARNER POPULATIONS:

Campus decision makers must identify the intended learner populations for alternative credentials. Strategic and philosophical considerations should be discussed when determining the reach of these potential new programs to various audiences. As mentioned above in **why an institution may want to offer alternative credentials**, the benefits to various types of learners is potentially significant, and for different reasons. They have the potential to increase access and equity by being more flexible, more affordable and shorter than traditional learning opportunities. If offered as part of stacked credentials, they may be pursued or bundled to fit learner needs feeding directly into learner choice and agency. They provide opportunities to learn specific skills to gain entry into certain jobs or upskill learners for job retention or profitability.

Learner populations may include, but are not limited to:

- Enrolled college students (undergraduate, graduate or professional) to engage in value-added learning opportunities
- Stop-out students who leave an institution with credits, but no degrees. Alternative credential opportunities may present less intimidating ways to re-engage them.
- Campus staff, as a means to improve access & equity for employees from underserved populations and/or in positions with limited opportunities for advancement. There may also be opportunities for faculty and administrators to participate in micro-credential programs to acquire additional skills and competencies to help them become better practitioners.
- Non-degree learners through continuing education and the promotion of specialized skills and interests as they continue in or return to the workforce
- Employees of corporations or businesses with which the campus has engaged in strategic partnerships to offer workforce development and upskilling
- Prospective students (either from high schools or community colleges) as way to promote new learning opportunities while establishing a relationship for potential future enrollment

The types of credentials and whether they are offered for college credit or not will be somewhat dependent on the intended purpose, the content and learning outcomes, and the learner population(s) to whom they are offered. In addition, institutions should consider if there are existing programs under which new credential types could be offered. For example, if a program already exists in a particular field, is it possible to delineate topical areas into smaller pieces which may be marketable to a different population of learners?

BEST PRACTICE: Clearly outline types and descriptions of learners who can seek alternative credentials from and through the campus. Understand why such credential programs might be offered to these populations, and how both the learners and institution will benefit from these structured relationships.

BEST PRACTICE: Identify how various learner populations will learn about and participate in the various types of alternative credentials. What will their status and relationship be with the institution?

BEST PRACTICE: Determine appropriate campus entities and governance structures to engage and work with industry partners, community colleges, and employers on the creation of appropriate consortium relationships and MOUs.

CONSUMERS:

Finally, while the value of the alternative credential should primarily benefit the learner, they are advantageous for the consumers (i.e. employers and institutions) as well. By upskilling and retooling the workforce to meet various industry demands, micro-credentials offer an opportunity for consumers to hire a skilled and ready workforce. Employers can also use micro-credential programs to provide focused training to new or transitioning employees for skills acquisition or enhancement. [Forbes](#) described the three biggest employer advantages of micro-credentials as including their scalability and cost effectiveness; their on-demand and individualized approach to learning; and their alignment of business needs to recruit and retain top talent.

In addition, institutions of higher learning may also be consumers of alternative credentials, both in the admissions process, as well as in employing learners with specific skills and competencies gained through micro-credentials. Institutions also may afford such students with expanded opportunities, such as research, leadership positions or advanced course standing.

BEST PRACTICE: Encourage consumers to identify needed skills for their workforce and work collaboratively to develop partnerships to enhance or create further micro-credential training.

HOW: Establishing administrative infrastructure, standards, and support for a successful implementation

The previous sections of this report describe the development of institutional standards and definitions of micro-credentials; the importance of aligning institutional mission and priorities; why a campus would choose to offer micro-credentials; and determining by whom and to whom the micro-credentials should be offered. This section of the report describes considerations and recommended best practices for institutions when determining “how” a micro-credential initiative may be implemented on their respective campuses.

It provides considerations for the establishment of the necessary processes and procedures (i.e. the “how”), which will be critical for success as campuses embark on the micro-credentials journey. Though some micro-credential programs may be credit-bearing, and others are based upon an experience or collection of experiences, activities or other engagements, an appropriate record or artifact of completion is necessary.

GOVERNANCE STRUCTURES:

A well-established responsibility of the faculty is to determine and approve curricula and requirements for credit-based credentials, primarily degrees, but also for certificate programs. Similarly, as institutions introduce micro-credentials, established institutional faculty governance committees and structures will need to be involved in the creation of frameworks and processes for the offering of alternative credentials. These may look different on each campus, yet the developed procedures should include faculty representatives for the review, approval, and assessment to ensure faculty oversight. If offering non-credit micro-credential programs out of non-academic units, appropriate review and approval structures and workflows need to be established for these as well to ensure consistency, meaningfulness, and worthiness of the campus brand.

In proposing new micro-credential programs, institutions must determine how they will be proposed, on what timeframe, and the processes for ensuring appropriate adherence to institutional or industry standards. Institutions must also decide whether a micro-credential will have an expiration date and time frame under which the credentials are reviewed.

BEST PRACTICE: Develop a structured approach and model for faculty oversight regarding the review, approval and verification of micro-credentials. Institutions should determine their specific needs and consider whether different information should be collected and approval workflows established between credit-bearing or non-credit micro-credentials. A proposed model framework or proposal form should request information regarding:

- Program title
- Program description
- Issuing entity
- Type (credit or non-credit)
- Level (if credit, graduate or undergraduate)
- Requirements
- Criteria
- Evidence (demonstrations or examples of criteria met)
- Assessment protocol
- Effective date
- Expiration date (if applicable)
- Learning outcomes
- Alignment with external standards and competency frameworks
- Description of the timing of how the micro-credential can be earned and when a learner can begin and finish the credential (traditional semester/quarter model or on-demand)
- APPENDIX in the final report to include an example of proposal framework/form
- Clock or credit hours, if applicable

The requirements will look different for the varying alternative credential types (badges, certificates, etc.). It is important to ensure the information and outcomes collected are comprehensive, are included as part of the review and oversight processes, are periodically assessed, and are clearly articulated to prospective learners.

BEST PRACTICE: Encourage cross-campus collaboration as part of the proposal process to ensure micro-credentials enhance or add to the institutional offerings, and do not duplicate existing programs or degrees.

BEST PRACTICE: Ensure the requirements needed to earn the micro-credential are standardized and clearly defined in a catalog and/or institutional websites. As described in the first section of this report, institutions will need to determine how the varying credential types “fit together.”

BEST PRACTICE: In addition to the requirements outlined above, institutions should articulate measurable criteria a learner must demonstrate to achieve the micro-credential. These criteria should be included in the artifact the learner receives upon completion of the micro-credential.

CAMPUS PARTNERSHIPS, PROCESSES, AND POLICIES:

New learner populations may require modifications to how a learner is defined, changes to academic or admissions policies, determination whether the credential meets the standards to receive financial aid, or coordination with student affairs practitioners regarding how these new learner populations will be incorporated into codes of conduct or academic integrity procedures and policies.

Another policy consideration is related to the transfer of alternative credentials. Institutions will need to determine if they will accept alternative credentials awarded by another institution and if it is allowed to stack toward a new credential. For example, if a learner obtained a skill and earned a badge in the military or within a job, will this skill be applicable and/or transfer to another institution?

In addition, institutions should consider the impact of micro-credentials and the institutional implementation of FERPA. For example, if matriculated students are in the same learning activity as non-matriculated micro-credential learners, there may be FERPA considerations related to the sharing and co-mingling of the two populations of learners.

BEST PRACTICE: Consider policy changes required to support micro-credentials before they are introduced and implemented. Campuses that already offer micro-credential programs have deployed various policy models. Some have worked to strategically implement common policies and procedures for all who wish to participate in this space. Others have left these decisions up to individuals and departments. While both models may have elements of success, having a broader perspective of the various considerations may influence campus leaders to be more strategic in their approach.

BEST PRACTICE: Create a network of campus champions including faculty, student affairs, information technology, human resources, financial aid, continuing education, and others. Determine if new institutional standards or academic policies need to be created to support the learners, the awarding of credentials, and processes to ensure integrity within them. Assess and determine whether the micro-credential meets the standards to receive financial aid.

BEST PRACTICE: Work collaboratively with campus partners to determine the scope of work to implement, maintain, and support micro-credentials and establish appropriate timelines, deliverables, and milestones. Institutions must consider the staffing levels, roles and responsibilities to fulfill the immediate implementation needs and also for long-term institutional scalability. Assess staffing needs, develop metrics for determining appropriate staffing levels, and communicate with campus decision makers regarding the necessary administrative support.

As the professional stewards for institutional student data and education records, it is crucial to the successful implementation of micro-credentials that registrars select and utilize trusted technological systems. Unreliable data is a risk factor to the trust of micro-credentials; thus, it will be prudent to ensure appropriate information is collected as well as a verification of the learner identity. Data quality reviews should be conducted to ensure the necessary learner and micro-credential information is being collected, maintained, and stored.

BEST PRACTICE: Determine needs related to technology, including software, badging platforms, and required technical modifications and integrations to support the implementation of micro-credentials. This will involve appropriate campus partners from information technology, registrars and enrollment professionals, academic departments, continuing education, faculty governance, and institutional reporting.

VERIFICATION OF LEARNERS

As institutional decisions are made regarding the types of learners who can seek micro-credentials and how the learning activities and assessments will occur, institutional review will be needed to ensure compliance with FERPA standards and requirements, ADA and accessibility requirements, accrediting bodies, and state agencies.

BEST PRACTICE: Create processes, procedures, and policies to verify the identity of the learner. To be a valued and trusted credential, institutions should adopt best practices that promote confidence that the learner is who they say they are, their credential was issued to and is now held by the person they claim to be, and the credential metadata contains the evidence of the claimed assertions.

BEST PRACTICE: As micro-credentials become more prevalent in the higher education environment, practices regarding how they will be recorded and presented to learners will continue to evolve. At a minimum, information should be retained regarding the learners who have earned the credential along with the criteria. Learners should be issued or be able to request a digital (or paper) artifact notating the verification of completion of the micro-credential. Because micro-credentials may contain links to campus web pages that are subject to change, a comprehensive list of the micro-credentials should be maintained in an official institutional publication (i.e. catalog) or other appropriate document.

As outlined in the AACRAO Student Records Management: Retention, Disposal and Archive of Student Records, these educational records, both information on the earned credential as well as a listing of the available micro-credentials, should be considered permanent records retention.

In the long term, institutions may find it necessary to create mechanisms for additional tracking regarding those learners who may have applied or are seeking a micro-credential along with their progress toward completion. It may also be beneficial to the institution to include micro-credentials on their respective academic transcript, comprehensive learner record, or co-curricular transcript, yet these decisions will vary by institution. Additional information on the comprehensive learner record and potential relationship with micro-credentials is found in the following section.

DATA STANDARDIZATION:

In previous sections of this report, considerations regarding learner populations and campus entities approved to award micro-credentials, were outlined and discussed. The digital nature of most alternative credentials provides learners with the opportunity to easily share their credential and its context with potential employers; thus, standards allowing for such portability and transferability are critical and key.

As micro-credentials are implemented, the collection of standardized metadata will be necessary. Metadata, such as the requirements a learner has completed and evidence a learner provided, will allow the learner to share information with potential employers regarding the skills and competencies they have demonstrated as a component of earning the micro-credential.

BEST PRACTICE: Develop and determine consistent metadata for each microcredential. Examples of metadata may include the name of the micro-credential, a description that includes learning outcomes such as skills and competencies, and measurable criteria needed to obtain the micro-credential; the learner's name, issue date, the issuer of the micro-credential, and description of the issuer.

BEST PRACTICE: Provide a framework for badge issuers to include evidence of the knowledge and skills a learner has demonstrated. The inclusion of evidence within the metadata can enhance trust of the micro-credential and also equip learners with added context that may be valuable to digital badge consumers (i.e. employers).

BEST PRACTICE: In micro-credentials proposals, encourage stakeholders to describe any alignments to standards and competencies frameworks. If the frameworks are published to a platform in a standardized format (such as CASE, CTDL, or OSMT), open badges allow badge assertions to include the alignments in ways that are machine readable. In the coming years, this feature holds the value proposition of increasing the visibility and discoverability of learners who have earned credentials, as well institutional micro-credentials and program offerings.

BEST PRACTICE: Consider the consumers of the metadata, including how your institution may utilize the metadata. If your institution envisions that employers will be actively consuming metadata, it should be packaged and presented in ways that are accessible and user-friendly to those audiences. The metadata and credentials should be interoperable for the benefit of the learners and for the consumers of the data.

OPEN BADGE STANDARDIZATION AND BADGE DESIGN:

At the time of this report, there are more than two dozen vendors providing software solutions for issuing digital badges. As the use of digital badges continues to increase, it is anticipated that the number of vendors that provide digital badging solutions will continue to grow.

In evaluating vendors, consideration should be given to the vendor tools and technology platforms that utilize a standard that can be easily shared by the learner and are interoperable between vendor platforms. For example, Open Badges is a type of standardization for digital badges. An open badge follows a technical standard or format that “is not a specific product or platform, but a type of digital badge that is verifiable, portable, and packed with information about skills and achievements” ([IMS Global](#)).

If an institution decides that the issuance of Open Badges is a functional requirement, it will be important when vetting vendors to ask whether the badges issued follow the open badge standards. The open badge standard is free to implement and any platform may adopt the specification. If a product is not Open Badges v2.0 certified, institutions should take independent steps to verify the platform standard allows for awarding badges in the open badge format. A list of platforms that are certified in the open badge standards is compiled and maintained by IMS Global.

BEST PRACTICE: Create micro-credentials in a way that allows them to be portable and transferable that help learners and institutions display, share, and otherwise utilize digital credentials. Alternative credentials issued using open badge technology enable issuers to include in the metadata uploads or links to evidence artifacts which demonstrate how a learner succeeded in meeting the badge criteria. Consideration should be given to ensure that the micro-credential demonstrates trust in the credential, it is immutable, and the issuer and authority behind the credential is easily discerned.

BEST PRACTICE: One benefit of micro-credentials is the digital nature of the credential which allows learners to include the credential on various social media platforms and digital resumes. As institutions implement micro-credentials, intentional consideration should be given to the visual design of the credential so it is consistent with the institutional brand identity, is distinguishable from other credentials the institution may offer, and also provides the necessary information to the receiving entities and consumers.

BEST PRACTICE: To increase the visibility of the offering program and also recognize the learners' accomplishments, develop mechanisms that encourage micro-credential earners to "claim" their credentials upon completion, and to display and share them. These mechanisms may include creating messaging and support resources to guide learners' understanding about their alternative credentials.

BEST PRACTICE: Develop a standardized institutional approach to the design and visual representation of micro-credentials. Determine who will create and design the micro-credential, the taxonomy for the micro-credential, and the institutional approach to the similarities or differences in the micro-credential design based upon the credential issuer or credential type

In one example of a micro-credential, a digital badge, an institution may utilize the same badge design, with the distinguishing characteristics being the name of the badge name and competencies.

Following are examples of different examples of the elements and types of badges that institutions of higher education are currently offering.

Illustration A: Elements Included in a Badge

The screenshot displays a digital badge template interface. On the left, a circular badge design is shown with the George Mason University logo and the text "Foundations of Technical Writing". Below the badge, a vertical red bar indicates the badge's type, level, time, and cost. The main content area is titled "Badge Elements" and includes the following sections:

- Test badge**: Issued by George Mason University.
- Badge Title**: Foundations of Technical Writing.
- Badge Description**: Upon completion of eight required courses, earners will have demonstrated foundational knowledge of human resource management and principles and will be prepared to provide value to an organization. They will be knowledgeable about the latest programs, techniques and incentives available to Human Resource professionals and have the ability to immediately implement this knowledge in the workplace. (500 character max)
- Skills tags**: 1 Required. Skills include 3D & 3D Design, Advanced Project Management, CAD Software, Customer Connectivity, Design And Drafting, and Digital Skills.
- Earning Criteria**: 1 Required. Activities completed to earn the badge include Describe application activity the earner completed to earn this badge. You can add more than one of each activity type. Activity types contain different icons. You can add a URL to each activity. 500 characters max; and Describe assessment activity the earner completed to earn this badge. You can add more than one of each activity type. Activity types contain different icons. You can add a URL to each activity.
- Standards**: Industry Recognized Standard. Alignment to 3rd party standards related to this achievement. This can be used to indicate adherence to ISO/ANSI standards, educational standards, company policies and standards. Institutional commitments or value statements. Multiple entries possible. 500 character max. You can add a URL.

(George Mason University, 2020) This annotated screenshot of a digital badge template from George Mason University identifies many key attributes of the badge, and highlights how alternative credentials enable institutions to equip learners (and consumers) with context about the learning and achievements being asserted.

Illustration B: Badge Example

The screenshot shows a digital badge page for Kennesaw State University. At the top left is the university logo and name. A 'Sign in' link is at the top right. Below the logo is a breadcrumb trail: 'Issues / Digital Learning Innovations / Using Discussions Effectively in Online Courses'. The main title is 'Using Discussions Effectively in Online Courses', created on Mar 24, 2022. A description states the webinar aims to demonstrate how instructors can effectively include discussions in their online courses by focusing on experiential learning that can help instructors and students create an online community of inquiry which promotes... [more]. The badge is offered by 'Digital Learning Innovations' and is 'Verified'. A 'Badge Details' section contains 'EARNING CRITERIA' (Participants will need to attend the Webinar to earn the Souvenir. Recipients must complete the earning criteria to earn this badge) and 'TAGS' (#onlinediscussions, #communityofinquiryframework, #pedagogy, #criticalthinking). A 'MICRO-CREDENTIAL LEVEL:' section explains that KSU supports four types of micro-credentials, each distinguished by the level of activity required by the earner to obtain the micro-credential. Souvenirs document participation, Level I Badges document introduction to skills, Level II Badges document mastery of skills, and Digital Certificates show a learner is qualified and capable of employing a collection of competencies or industry standards. At the bottom left is the 'Open Badges' logo and 'We Issue' text. At the bottom right is a 'View JSBN' button.

(Kennesaw State University, 2020) This 'Souvenir' badge from Kennesaw State University demonstrates an example of a participation badge. It provides recognition while not necessarily credentialing competency. In addition to the description and skills tags, the digital badge contains metadata that provides context, including the earning criteria.

Illustration C: Badge Example

Project Preparation
Issued by University at Buffalo

Offered by Experiential Learning Network, this badge is part of the ELN Digital Badges micro-credential program. Earners of this badge are effectively prepared for project development.

Skills

- Critical Thinking
- Digital Technology
- Global/Intercultural Fluency
- Identifying Goals
- Oral/Written Communication
- Problem Solving
- Project Preparation
- Teamwork/Collaboration

Earning Criteria

- Complete the required activities in the Project Portal; submit a 250-300 word context summary; complete a NACE competency self-assessment; develop project goals and intentions.

(University of Buffalo, 2020) This digital badge from the University of Buffalo is a good example of how the same badge design can be utilized. The distinguishing characteristics being the name of the badge name and skills.

WHERE: Identifying places where micro-credentials and digital badges may be recorded and shared

Like most macro-credentials, academic certificates that are formally approved typically are maintained in student information systems and posted to academic records and transcripts. However, practices for where and how to maintain approved micro-credential programs as well as where to post completions for learners have been less consistent in these early years of offering such credentials. Some campuses have chosen to build and maintain credit-based programs and awards in student information systems, either instead of or in addition to a badging platform. In terms of non-credit based micro-credentials, there are fewer consistencies or standardized platforms for building and maintaining them.

STUDENT RECORDS:

In addition to the technology solutions and systems for storing, managing and issuing alternative credentials, registrars are increasingly exploring and/or developing alternative or supplemental records for learners to view and share their credentials and other learning experiences, including Learning and Employment Records (LERs) and Comprehensive Learner Records (CLRs).

The LER/CLR value is that, like the extended transcripts that came before it, they can act as containers for learning and achievements, providing a summary of learning that allows the learner to reflect on their education and, from this, articulate that learning to others. It is richer in content than a traditional transcript (though it is worth noting that CLRs may contain transcripts) in that the credential will carry the learning outcomes and their descriptions (and optionally, evidence) achieved by the learner. The CLR provides information on learning that may come from academic courses, co-curricular activities, employment, or other evidence of learning or acquired competencies.

LERs can assist learners in understanding the knowledge, skills and abilities they acquired during their education and how the knowledge will translate to future use after their academic career. They can also provide objective, trusted evidence of learning to third parties reviewing or considering a learner as a candidate for an opportunity (e.g., labor market, graduate school, etc.)

Ideally, the records would be building blocks for learner self-sovereignty enabling them to collect their credentials, stack them and disclose as needed to third parties without violating the chain of trust that stands behind the assertions. This could be accomplished in a manner similar to encrypted PDF transcripts that pass through the student prior to reaching the recipient.

BEST PRACTICE: Determine the solutions in which alternative credentials will be maintained from which they will be issued. Will they be built and stored in the main SIS, in a badging platform, or in both?

BEST PRACTICE: Identify the types of records learners will be issued where earned micro-credentials are listed. Will these be part of traditional academic transcripts, in LERs, or both? If non-credit based micro-credentials are issued, are they included on the same types of records?

BEST PRACTICE: If using a LER, ensure it is compliant with digital standards that enable them to be interoperable and exchangeable among and between many credential providers (both within and outside of higher education). CLRs are one such standard, and AACRAO has been actively involved in the research and development of the specification.

At the time of this report, AACRAO continues its work (started in 2015) on establishing the CLR as a viable and valuable credential and tool for all students and other learners who continue their education at higher education institutions. More information regarding the specific work in which AACRAO has been engaged as well as one of AACRAO's signature initiatives is available at [Comprehensive Learner Record](#).

WHEN: Timing the award of digital badgers to foster their relevance and usefulness to learners

A determination campuses should make is whether they have the appetite and/or bandwidth to support flexible deliveries and awarding of alternative credentials, or if they must adhere to traditional business structures and calendars. Timely award of certificates and digital badges would likely make them immediately useful to learners. However, incorporating the offering and award of alternative credentials to the structures of traditional semesters and cycles may be necessary due to compliance, staffing, and reporting needs. These expectations and capabilities may change over time as these credentials become more commonplace and business processes mature, yet it is important to consider how institutions can remain agile and adjust to the evolving and quickly changing badge landscape. Impacts to special populations of learners, such as veterans and student-athletes should be considered in terms of status and benefit eligibility. In addition, any alternative timing or processing of enrolling and awarding these credentials, particularly if they are credit-based, should be cleared by institutional reporting, financial aid, and international student services. In some instances, the timing of when the micro-credential is awarded may vary based upon the type of credential. For example, it may make sense for some micro-credentials to be awarded with degree completion while others are awarded at the time the activity or assessment is completed, regardless of when it occurs within the semester. These institutional considerations will have to be addressed as micro-credentials are proposed and implemented.

BEST PRACTICE: Involve campus partners and stakeholders in determining the process for when micro-credential can be awarded by analyzing the needs of the learners, institutional staffing considerations, current business processes, how the micro-credential may align with other academic credentials the learner may be seeking, and potential impact to special populations.

FUTURE OPPORTUNITIES

Higher education can anticipate an increase in the offerings and usage of alternative credentials as part of campus responses to the rapidly changing higher education landscape. Enrollment management leaders, registrars and admissions officers will need to be adaptable and strategic in acknowledging the changes and develop new ways to support the evolving environment. As state and system governing bodies as well as accrediting bodies introduce new standards, best practices, and compliance guidance on alternative credentials, we must be able to react from an informed and proactive position in order to best guide and support our campus communities.

Institutional committees or workgroups should be established to regularly review the ecosystem of alternative credentials and make recommendations as to how the institution can best position itself in supporting the campus and various learner populations. What is expected of institutions will continue to change and the group should discuss and recognize, along with other campus partners, opportunities to re-engage learners, create new opportunities for non-degree learners, and explore ways to impact and create economic mobility for learners.

A future opportunity includes the usage of prior learning assessments as compliments to alternative credentials, particularly as more credentials are issued by private industry and other non-education entities. While there is much to be explored and uncovered related to prior learning assessments, campus thought leaders, faculty, and academic practitioners, should be aware of and recognize the potential impact and future opportunities for their respective campuses. At time of publication of this workgroup report, AACRAO is considering convening another workgroup to further address the considerations, best practices, and guidance related to prior learning assessments.

Another area of potential change and opportunity is related to the international education landscape and some of our higher education international partners who have an advanced alternative credential ecosystem. As micro-credentials continue to expand in the United States, higher education leaders must consider the opportunities and lessons learned from our international counterparts and contribute to ways these can become globally-recognized credentials.

Technological initiatives regarding improvements to identity management and the usage of blockchain have the potential to improve the mobility of learners and transferability of credentials. Empowering learners with greater access and agency with their earned credentials will potentially present us with transformational opportunities to increase official recognition of skills attainment, degree completion, and economic mobility, especially for learner populations that have been historically underrepresented and marginalized ([Federal Reserve Bank of Philadelphia](#)). As the technology tools we use in our daily lives - medical records, wikipedia authorship, etc. - become more intelligent and are able to authenticate "who we are," and the usage of blockchain becomes more widely adopted, higher education institutions will have the opportunity to determine if these technological advances can be adopted within their respective campuses. In the case of alternative credentials, the opportunity to improve identity management and increase the mobility of digital credentials has the potential to be impactful for world-wide learners who seek our credential offerings.

SUMMARY

Micro-credentials and digital badges, along with certificates, represent an area of significant rapid growth in higher education. They present new strategies for recruitment and retention, corporate and community partnerships, new revenue streams, and most importantly, they offer broader opportunities for learners to obtain new skills and knowledge. They also provide a legitimate way for this learning to be verified and validated by institutions themselves. While higher education cannot control or curb what happens in the private sector, finding thoughtful, strategic and unified ways to co-exist in this space needs to be realized. Creating a common understanding and adoption of meanings and standards associated with higher education badges and certificates will help lay the foundation for a more successful expansion and adoption of these newer credentials. Such efforts will better ensure that alternative learning opportunities are more consistently regarded and valued by learners, consumers and society.

REFERENCES

There is currently a plethora of literature related to various types of alternative credentials. As the landscape continues to evolve, additional literature and reports will be developed. The following is a list of resources the work group utilized to provide helpful background information or were included as specific references in this report.

American Association of Collegiate Registrars and Admissions Officers: AACRAO Comprehensive Learner Record Implementation Guide

American Association of Collegiate Registrars and Admissions Officers: Implementation Guide for the IMS Global Comprehensive Learner Record Standard

American Council on Education: Communicating the Value of Competencies (2016)

American Council on Education: Final Report for the Alternative Credit Project

American Council on Education: The Education Blockchain Initiative Final Report by Taylor Hansen, Louis Soares, Michele Spires, and Harold Tran (2021)

Badge Wiki: A Guide to Writing Open Badge Metadata: Retrieved 20:30, March 17, 2022

Concentric Sky and Badgr: The Future of Open Badges is Verifiable by Kerri Lemoie (July 2021)

Confederation of University Faculty Associations of British Columbia: Faculty Voice: On Academic Credibility in Micro-Credentials at BC's Research Universities

Corporation for a Skilled Workforce, George Washington University, Workcred: Understanding Certifications by Larry Good, Evelyn Ganzglass, Stephen Crawford, Kyle Albert, Roy Swift, Karen Elzey, Isabel Cardenas-Navia (December 2020)

Council for Adult and Experiential Learning: The PLA Boost: Results from a 72-Institution Targeted Study of Prior Learning Assessment and Adult Student Outcomes (December 2020)

Credential Engine: New Reports Find Nearly One Million Credentials and \$2 Trillion in Yearly Education and Training Expenditures in U.S. (February 2021)

Credly: No Guts, No Glory: The Story of Metadata

Digital Promise: Micro-Credentials

Educause: 7 Things You Should Know About Digital Badges (July 2019)

Federal Reserve Bank of Philadelphia: Exploring a Skills-Based Approach to Occupational Mobility by Keith Wardrip (January 2021)

Forbes: Small but Mighty: Why Micro-Credentials are Huge for the Future of Work by Mark Perna (October 2021)

George Mason University: Digital Badge Authorization Proposal and Issuance Information (November 2020)

IMS Global: Digital Badge Program Considerations

IMS Global: Open Badges - Frequently Asked Questions and Glossary

IMS Global: Comprehensive Learner Record Standard

Inside Higher Ed: Making Credentials Matter by Jimmie Williamson and Matthew Pittinsky (May 2016)

International Council on Badges and Credentials: ICoBC Taxonomy, Quality Criteria, and Quality Grid (August 2021)

Jobs for the Future: Digital Learning Records Make the Job Market More Equitable and CBOs Can Help by Joe Deegan (March 2021)

National Education Association: Micro-Credentials

National Skills Coalition: States Should Improve Transparency and Quality of Credentials for an Equitable Recovery by Rachel Vilsack (August 2021)

NC State University: Seven Lessons Learned from Implementing Micro-Credentials by Lauren Acree (January 2016)

Kennesaw State University: Badges (2020)

Kennesaw State University: Badge Details: Data Informed Improvement. Digital Credential Network powered by Badgr Pro. (2020, September 18). Retrieved June 4, 2022.

Online Learning Consortium: Alternative Credentials: Prior Learning 2.0 by Dr. Jill Buban (2017)

Suitable: What are Micro-Credentials and Why Are So Many Universities Talking About Them by John Steele.

Teachers College, Columbia University, Community College Research Center: Stackable Credentials: Awards for the Future? by Thomas Bailey and Clive Belfield (April 2017)

The Global Institute on Innovation Districts: The Emergence of Alternative Credentials by Shizuka Kato, Victoria Galan-Muros, and Thomas Weko (March 2020)

University of North Carolina-Chapel Hill: Digital Badging: A Quick-Start Guide for Higher Education Program Administrators by Tyler Ritter (March 2022)

University of North Carolina-Chapel Hill: Spotlight on Skills: Badging Usage in Higher Education by Jack Rodenfels (October 2021)

UPCEA: UPCEA Hallmarks of Excellence in Credential Innovation

Wikipedia Contributors: In Wikipedia, The Free Encyclopedia. Retrieved 21:10, March 17, 2022

Workcred: Aligning and Embedding Industry Certifications with Bachelor's Degrees

UNESCO: Digital Credentialing: Implications for the Recognition of Learning Across Borders (2018)

UNESCO: A Conversation Starter: Towards a Common Definition of Micro-Credentials (September 2021)

University of Buffalo: Office of Microcredentials: Offerings (2020)