

What “Workforce-Driven” Means in Practice: How Ohio Employers and Higher Education Professionals Perceive Micro-Credentials

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ABSTRACT

As micro-credentials continue to gain momentum in higher education and workforce development, questions persist about their purpose, structure, and perceived value. This study explores how two critical stakeholder groups—employers and higher education professionals—understand micro-credentials, including what attributes they associate with quality and relevance. Using a statewide survey of 141 respondents in Ohio, this study investigates micro-credential familiarity, workforce alignment, and key concerns such as standardization, assessment rigor, and industry recognition.

Initial findings reveal that while both groups generally support micro-credentials as skills-verifying tools, familiarity is low, with only 10% of employers and 15% of higher education professionals reporting being “very familiar” with these programs. Limited standardization was a significant concern across both groups, leading to difficulty assessing credential quality. Still, more than half of both groups selected three or more micro-credential attributes essential to workforce alignment, indicating that stakeholders value multi-dimensional credential design.

These insights offer practical guidance for institutions designing experiential or skills-based credentials that meet the evolving needs of learners and employers in cooperative and career-focused education contexts.

WHAT “WORKFORCE-DRIVEN” MEANS IN PRACTICE: HOW OHIO EMPLOYERS AND HIGHER EDUCATION PRO- FESSIONALS PERCEIVE MICRO-CREDENTIALS

In 2018, the nonprofit organization Credential Engine began counting credentials across the United States, initially identifying more than 330,000 credentials across eight types (Credential Engine, 2022). By 2022, that number had grown to over one million credentials in 18 categories—an increase of more than 200% in just four years. During the same period, public confidence in higher education eroded sharply: in 2018, 48% of Americans reported “a great deal of

confidence” in higher education, compared to only 36% in 2024, while the proportion reporting “very little” or “no” confidence doubled from 16% to 32% (Jones, 2025). When asked why, the most common response was that “students are not properly educated/colleges don’t teach relevant skills.” Part of the decline in confidence may be attributed to a shift in the definition of what constitutes “prope[r] education” and “relevant skills”: roughly half of Americans now believe that the primary purpose of higher education is to develop specific workforce-readiness skills and competencies (Pew Research Center, 2016). Furthermore, 87% of

respondents in a separate survey said they expect to continue upskilling and reskilling beyond a degree program to meet workplace demands (Pew Research Center, 2016).

These shifts in public perception and demand coincide with changes in how people access and value learning. The rise of Massive Open Online Courses (MOOCs) from 2008 to 2012 demonstrated the public's appetite for on-demand, low-barrier learning opportunities (Costello et al., 2022). Yet, unlike formal degrees, MOOCs lacked an official record to showcase learning to employers. Digital badges emerged in the 2010s as a "digital representation of a learning outcome" (Janow, 2014, p. 9), enabling learners to signal achievements. More recently, micro-credentials—often represented by digital badges—have proliferated. Amid this rapid growth, the lack of shared definitions and structures has created confusion for learners, employers, and higher education professionals. Institutions seeking to design high-quality, workforce-aligned credentials—especially those connected to cooperative or experiential learning—need clearer insight into how key constituents understand and evaluate micro-credentials.

This study explores how two key groups, higher education professionals and employers, understand and evaluate micro-credentials in Ohio. Specifically, it investigates the extent of their familiarity with micro-credentials, the attributes they consider essential for quality and workforce alignment, and their concerns regarding standardization, rigor, and relation to industry. By focusing on these dimensions, the study aims to provide insights that can guide institutions in designing experiential or skills-based credentials to better meet the evolving needs of modern learners and employers. To achieve this purpose, this study was guided by the following research questions:

1. How familiar are higher education professionals and employers across Ohio with micro-credentials?
2. What attributes of micro-credentials are deemed essential to quality and workforce alignment?
3. What concerns do these constituent groups have?

Literature Review

The concept of short-term credentials is undoubtedly not new. Certificates, badges, nano-degrees, MOOCs, and micro-credentials have become increasingly popular. The COVID-19 pandemic reignited the frenzy for short-term, verifiable credentials that could be completed predominantly online (Varadarajan et al., 2023). In addition, mass

lay-offs throughout the pandemic and individuals voluntarily quitting during the Great Resignation further fueled career changes, with roughly half of those who changed employers also changing the industry or occupation of their employment (Kochhar et al., 2022). This combination of economic pressures and cultural shifts in attitudes toward work means that individuals seeking new employment must often develop new skill sets for the ever-changing world of work (Ositelu et al., 2021; Robinson, 2024).

These changes in learning and work have also influenced institutions of higher education. A 2023 Gallup poll found that confidence in higher education in the United States is at an all-time low of just 36% (Brenan, 2023). Fewer students are moving straight from high school to college—69% in 2018, down to 62% in 2021 (National Center for Education Statistics, 2023). This drop in enrollments is further exacerbated by the looming demographic cliff, where the number of young people coming through our high school systems is set to decline (Harvey, 2021). Individuals are also skeptical of the return on investment of higher education, with the student loan crisis ever looming (Binkley, 2023). Given these and other challenges, higher education institutions must develop creative and strategic ways to attract new students, including adult learners, to mitigate the loss of degree-seeking and straight-from-high-school college students (Clochard et al., 2022). Consequently, higher education institutions have begun to explore micro-credentials and other short-term programs to help meet workforce demands and maintain relevance in today's society.

Universities' embrace of micro-credentials is a recent but accelerating trend. A literature review conducted by Varadarajan et al. (2023) of published journal articles related to micro-credentials noted that over 70% of their included articles were published from 2020 to 2022. Despite reviewing 60 articles on the topic, Varadarajan et al. (2023) found a distinct lack of a shared definition of micro-credentials, with 20% of articles using terms like "digital badges," "MOOCs," and "micro-credentials" interchangeably. Likewise, in 2022, a snap poll conducted by The Online & Professional Education Association of university professionals (UPCEA) also found a lack of shared definitions, with roughly 31% of respondents calling their programs "micro"-credentials, 26% "alternative" credentials, and 19% "non-degree" credentials (Fong et al., 2023).

This lack of clarity on the definition of micro-credentials also appears to be a point of frustration for employers, where 80% have expressed concerns about the consistency

of micro-credential programs (Gauthier, 2020; Varadarajan et al., 2023). Without a sound definition, it is hard for employers to trust the programs and understand what someone knows and can do as a result of earning a micro-credential. This skepticism also holds for students who may be reluctant to invest in a program to upskill or reskill without understanding how it will benefit them (Maxwell & Gallagher, 2020).

Despite the concerns, state governments and other entities are making significant monetary investments in these short-term programs. In 2024, the Ohio Governor's Office of Workforce Transformation awarded \$2.58 million through its Individual Microcredential Assistance Program (IMAP) to help low-income and unemployed Ohioans earn workforce-ready credentials (Ohio Governor's Office of Workforce Transformation, 2024). However, the quality and effectiveness of these programs and providers are not regularly assessed, which can cast doubt upon their outcomes. Yet, it is important to bear in mind that the accreditation of colleges began in much the same way. As the demand for higher education rose throughout the late 1800s and early 1900s, more selective institutions sought a way to differentiate themselves (Kelchen, 2017). These institutions voluntarily started engaging in an accreditation process, creating a system that required colleges to demonstrate academic competence and the needed resources for higher learning (Kelchen, 2017). A standardization and quality assurance process should also exist for micro-credentials and other short-term programs, particularly as state governments continue to invest in these initiatives. Additionally, establishing a standard definition for micro-credentials could help employers better understand what credential earners know and can be expected to do, building additional confidence in the educational system.

In a 2023 interview, James Fong, Chief Research Officer of UPCEA, highlighted a possible strength of these short-term credentials for retaining degree-seeking students in higher education, stating, "Gen Z and millennials are used to taking smaller, bite-size pieces. The 120-credit degree is such a big bite ... but we've also got to reward people for accomplishments along the way" (D'Agostino, 2023, para. 18). Fong reinforces that micro-credentials are not a replacement for degrees but rather provide a way to break up and reward learning throughout a longer journey, helping students stay motivated and continue toward the end goal. However, it is also important to note that these short-term credentials cannot and should not be made in a vacuum. There are different demands to be met to ensure the micro-credentials meet the expectations of both students

and industry.

As such, higher education institutions are being pressured to work with employers and other constituents to ensure that any micro-credentials developed align with workforce needs (Varadarajan et al., 2023). Employers say they are willing to jump in to help, with 68% of employers from a 2023 UPCEA poll stating they would like to be approached by a college to assist with developing short-term or non-credit credentials (D'Agostino, 2023; Fong et al., 2023). However, only about half (56%) indicated that a higher education institution (HEI) had ever approached them to do so, highlighting a disconnect between two major constituents in the micro-credential space (D'Agostino, 2023).

Moreover, employers are currently feeling skeptical about the outcomes of micro-credentials. The same UPCEA poll of 510 employers found that the most significant concerns about "non-degree or alternative credentials" were "unsure of the quality of education" (46%) and "unsure of skills and competencies acquired" (42%), further showcasing the confusion and skepticism about these short-term credentials (Fong et al., 2023, p.14). In fact, this survey also found that 65% of employers said they would like to see proof of program effectiveness (Fong et al., 2023). Employers are also confused and frustrated by micro-credentialing initiatives' lack of transparency and rigor (Gauthier, 2020). In Gauthier's interviews, employers "noted that the criteria for issuance must be rigorous and holistic to ensure that the microcredential being awarded holds value in the industry" (2020, p. 5).

Employers' reservations matter deeply because their trust is becoming increasingly crucial as short-term credentials continue to skyrocket and organizations move toward skills-based hiring (Coursera, 2022; Credential Engine, 2022; Maina et al., 2022; Varadarajan et al., 2023). Many national and international organizations, such as the U.S. Department of Labor (2024) and the European Commission (2022), have documented skills-based hiring trends. Part of this shift may be attributed to the skills gap, where recent college graduates may be perceived as struggling to apply what they have learned in the classroom to work:

[Degrees], in fact, leave out what and how students learned, and the skills and competencies they acquired within and beyond the walls of the university, which makes them inadequate to reflect the transferable skills needed in a changing workplace. As a consequence, they are becoming increasingly ineffective as a screening mechanism for recruiters (Maina et al, 2022, p. 3).

In other words, degrees provide employers with the individual's final destination but not the journey itself. A degree conveys a significant milestone but does little to showcase the smaller segments that went into developing teamwork and communication skills, technical abilities, or knowledge of a specific subject. Micro-credentials could serve as a way to showcase intermediate achievements garnered along the way, helping employers better understand the diversity of skills and competencies potential employees have to offer. Thus, micro-credentials can assist many constituents, including learners, employers, and credentialing providers. However, some uncertainty about their value remains, setting the stage for this research study.

Theoretical Framework

Micro-credentials inhabit the intersection of three interest groups: students, employers, and higher education institutions. Each of these constituencies has its own motivations and priorities. Among the earliest frameworks for understanding students' educational choices was human capital theory, which rose to prominence in the postwar era as veterans pursued higher education with GI Bill benefits (Kelchen, 2017). Human capital theory holds that as demand rises for skilled labor, workers pursue additional educational credentials that allow them to meet employers' skill requirements. According to human capital theory, a developing industrial economy requires ever more advanced skills; students will invest in education until that investment no longer pays off in higher wages (Walters, 2004). For human capital theory, college credentials align with the motives of employers (who need skills to earn revenue), students (who need employment to earn wages), and higher education institutions (who need students to earn revenue). Since the 1970s, human capital theory has been challenged by so-called credentialists, who are referred to as such because they argue that credentials themselves—not the skills they were meant to represent—have become valuable to employers. For credentialists, a college degree is a hollow signifier at best, and a gatekeeping mechanism at worst (Walters, 2004). While the degree may serve institutions of higher education and, to some extent, may also serve employers, it does not align with students' best interests. In fact, while faculty and staff at colleges and universities tend to think of education as an engine for equality, credentialists argue that by continuing to offer traditional degrees at increasingly high cost to students, institutions of higher education instead exacerbate economic inequality (Pfeffer and Strivanek, 2018). Moreover, even businesses

suffer, as they “incur substantial, often hidden, costs by inflating degree requirements, while enjoying few of the benefits they were seeking” (Fuller and Raman, 2017, p. 2).

Because they are shorter-term, lower-cost, and offer the potential for à la carte skills development, micro-credentials answer credentialists' call for credentials that align with learners' needs. They also promise a return to what human capital theory saw as the goal of higher education—to provide employers with a highly skilled workforce—but with enhanced efficiency, as an evolving set of in-demand skills can be quickly attained by workers, upskilling over a lifetime. The explosion of micro-credential offerings can be seen as one response to the pressure of neoliberalism on both higher education institutions and students. In a neoliberal framework, the learner is first and foremost a consumer, whose goal is to shape the self into a valuable labor market commodity. As businesses' labor needs change, the learner requires flexible educational products in order to efficiently and continuously pursue economic advancement (Reynoldson, 2023). Meanwhile, neoliberal policymaking frames institutions of higher education as self-interested “market actors” as well, and incentivizes them to “actively pursu[e] new revenue streams and new ‘customers’” (Dougherty and Natow, 2020, p. 459). Micro-credentials satisfy the need for new revenue, but less cynically, they also restore the feeling of mission-driven work for higher education institutions, giving them a new way to advance learners' economic futures at a lower cost to students, and at greater benefit to employers. Some of the dissonance we find in discussions of micro-credentials—and especially in discussions about their quality and relevance—may be ascribed to their status as a novel “product” in higher education, one that draws students, employers, and universities into new interactions during a time of great change.

Methods

All research protocols and procedures were cleared by the Institutional Review Board (IRB) of Miami University before conducting research. Higher education (HIED) and industry (EMP) participants were contacted through personal networks (i.e., published on Facebook, LinkedIn, etc.) and shared through various listservs. For HIED professionals, a call for participants email was sent out to mailing lists through professional organizations such as the Ohio Career Development Association, Ohio Student Personnel Association, and university listservs such as Kent State University's current and former HIED students. For employers, the

call for participants was also sent to the Columbus Young Professionals Club and various human resources-related professional groups such as the Society for Human Resource Management (SHRM). After a few weeks of low responses to employer outreach, the researchers utilized Prolific, which connects researchers with individuals interested in participating in research. Employer respondents were paid \$1.80 through this website to complete the survey.

All participants were 18 years or older and lived or worked in Ohio. Participants identified as either a higher education professional, defined as someone who works at a college or university within either academic or student affairs, or as an employer, defined as someone who works outside of HIED in a corporate or non-profit setting where they oversee or otherwise influence job postings or hiring decisions, including self-employment. The criteria were meant to be the least restrictive possible to ensure widespread participation across industries.

Setting

This research was restricted to individuals who lived or worked in Ohio. Ohio was selected not only because it was of particular interest to the researchers who reside in the state but also because Ohio has invested significant financial resources to restructure and reprioritize short-term workforce development, education, and training initiatives. For example, Ohio Governor Mike DeWine launched a new program, TechCred, in 2019, as a part of his commitment “to fund the completion of 10,000 microdegrees each year in order to aid in closing the skills gap for growing technology jobs” (Governor’s Office of Workforce Transformation, 2019, para. 10). The most recent numbers, released in January of 2025, state that TechCred has awarded over 120,000 technology-related credentials to almost 3,500 Ohio employers since its inception (Stover, 2025). TechCred allows Ohio workers to upskill and reskill at no cost to them by reimbursing employers up to \$2,000 per credential per employee. For those who are unemployed or underemployed, or who simply do not wish to go through their employer for training, Ohio also offers the Individual Microcredential Assistance Program (IMAP), allowing them to complete a similar credential at no cost to them (Ohio Governor’s Office of Workforce Transformation,

2024). In 2024, IMAP had 15 training providers and more than \$6.2 million to support the initiative. These initiatives showcase Ohio’s desire to move in sync with industry and emphasize the importance of upskilling and reskilling current workers. In addition, Ohio’s extensive network of higher education institutions holds much promise for helping the state meet the demands of its businesses and industries. Ohio’s higher education system, comprised of 14 public universities, 24 regional branch campuses, 22 community colleges, over 70 adult workforce education and training centers, and many more private institutions, is well-equipped to help meet current workforce demands for upskilling and reskilling (Ohio Department of Higher Education, 2025).

Instrument

An anonymous online survey was created for this study, consisting of 17-19 questions depending on the respondent group. HIED and EMPs both responded to demographic questions to capture their job titles, years of experience in the field, and workplace characteristics (industry/type of university). Additional questions gathered their perspectives on micro-credential definitions, defining characteristics, completion length, and potential drawbacks or concerns. The survey was housed in Qualtrics, and access was limited to the primary researcher, providing additional security for individuals’ information. The survey was anonymous, and participants could skip any questions they did not wish to answer. They could also withdraw their consent to participate at any time. Responses were analyzed using IBM SPSS Statistics (Version 29).

Respondents

The survey resulted in 208 submitted responses. Twenty did not meet the requirement of identifying as either a higher education professional or an employer. Of the remaining 188, 47 did not finish more than one or two demographic questions on the survey and were excluded from analysis. All other respondents officially submitted their survey, though they may not have answered every question. This resulted in 141 responses in the final evaluation, including 68 EMP responses (48%) and 73 HIED professionals (52%). Tables 1 and 2 describe the demographics of participants.

TABLE 1**Demographics of HIED participants (N = 73)**

CHARACTERISTICS	CATEGORY	PERCENTAGE
Type of institution	Public, 4-year	73.0
	Public, 2-year	7.0
	Private, 4-year	16.0
Years of professional experience	10 years or less	41.0
	11-20 years	27.0
	> 20 years	18.0

TABLE 2**Demographics of EMP participants (N = 68)**

CHARACTERISTICS	CATEGORY	PERCENTAGE
Type of institution	Public, 4-year	73.0
	Public, 2-year	7.0
	Private, 4-year	16.0
Years of professional experience	10 years or less	41.0
	11-20 years	27.0
	> 20 years	18.0

FINDINGS

Of the 73 HIED professionals surveyed, 50 reported that their institution offered micro-credentials. Fifteen respondents were unsure if their institution offered micro-credentials, and eight reported that it did not. While many HIED professionals reported that their institution offered short-term credentials, only 15% reported being very familiar with micro-credentials, 39% reported being familiar, and 46% reported they were somewhat or not at all familiar with them.

Of the 68 employers surveyed, 10% reported being very familiar with micro-credentials, and 26% said they were familiar with them. About a third (31%) reported being unfamiliar with micro-credentials, while the remainder (32%) said they were at least somewhat familiar with them. Employers interacted with micro-credentials in various ways, including recognizing micro-credentials during the hiring process (44%), utilizing micro-credentials for employee training and professional development (43%), and partnering with educational institutions or training providers to create or approve micro-credentials (26%).

A chi-square test of independence was conducted to examine the relationship between respondent type (HIED professional vs. EMP) and familiarity with micro-credentials. There was a significant association between respondent type and familiarity with micro-credentials, $X^2(3) = 15.70$, $p < .001$. In general, HIED professionals reported greater familiarity than employers. Familiarity with micro-credentials and a participant's years of professional experience were not significantly associated for HIED professionals ($X^2(12) = 6.67$, $p = 0.879$) or employers ($X^2(12) = 14.54$, $p = 0.268$).

Respondents were asked to provide their own definition of micro-credential. The most commonly used words from these definitions were "specific," "short," and "skill(s)". HIED respondents frequently included the word "certificate" while employers used the term "certification". This showcases the overlap between various terminology for short-term credentials, including certificates, certifications, certificates of completion, and digital badges. One respondent specified, "There is varying language about what institutions, employers, and vendors call the document provided at the end of earning a micro-credential."

Attributes of Micro-credentials

In addition, respondents were asked to rate the importance of four different credential attributes: industry or employer endorsement, alignment with labor market trends, recognized certification/accreditation, and stackability, or the ability to stack the credential towards higher-level credentials and/or degrees. The four-point Likert scale was "Not at all important" to "Very important" and was transformed into numeric values from 1 to 4. Averages and standard deviations for each group can be found below in Table 3.

TABLE 3**Importance of various criteria by respondent type**

	Assessment of Skills	Industry or employer endorsement	Alignment with labor market trends	Recognized certification or accreditation	Stackability with other credentials or degrees
HIED	3.22 ± .80	2.96 ± .80	3.22 ± .73	3.11 ± .86	3.01 ± .95
EMP	2.94 ± .86	2.79 ± .92	2.80 ± .93	3.20 ± .77	2.88 ± .93

An independent samples t-test was conducted on the above attributes. There was a significant difference between EMPs and HIED professionals regarding the importance of a skills assessment ($t_{137} = 1.99, p < .05$), with HIED professionals finding this to be more important than EMPs. HIED professionals were more likely to find alignment with labor market trends more important than their employer counterparts ($t_{137} = 2.94, p < .01$). There were no statistically significant differences between HIED and EMPs on the other attributes. However, it should be noted that HIED professionals generally found these attributes more critical than EMPs in all categories other than “recognized certification or accreditation.”

When placed in rank order of importance, HIED professionals’ top concerns were skills assessment and alignment with labor market trends. In contrast, employers’ top concerns were recognized certification/accreditation and skills assessment. Both groups’ lowest priority from this list of options was industry or employer endorsement.

Relation to Workforce

One question asked about participants’ perceptions of micro-credentials being “workforce-driven.” Four possible responses were available, plus an option to add a response of “other.” Respondents could select all that applied. For HIED professionals in particular, it was evident that respondents found the workforce-driven aspect of micro-credentials to be nuanced, with over 57.5% of respondents selecting three or more from the possible list of four options. EMPs were less likely to choose as many options; only 24.2% selected three or more options. 34.9% of EMPs selected only one option, compared to about 20% of HIED professionals. The top response across both groups was “Credentials in high-demand workforce skills based on labor market trends,” with 86.3% of HIED professionals and 72.1% of EMPs selecting this option. Table 4 shows the percentage of respondents in each group who selected each category.

TABLE 4**Workforce relation of micro-credentials by respondent type**

	HIED % OF RESPONDENTS	EMP % OF RESPONDENTS	TOTAL % OF RESPONDENT
Credentials in high-demand workforce skills based on labor market trends	86.3%	88.2%	87.2%
Credentials in high-demand workforce skills based on local employer demand	75.3%	70.5%	73.0%
Credentials developed with specific employer partners	72.6%	72.1%	72.3%
Credentials approved by, but not developed with, employer partners	49.3%	39.7%	44.7%

TABLE 5

Level of concern with select attributes by respondent type

	Lack of Standardization	Questionable Quality or Rigor	Unclear Alignment with Industry Needs	Difficulty Evaluating Credentials During Hiring	Limited Recognition Across Industries	Cost to Employers/Employees
HIED	3.36 ± .95	3.39 ± 1.12	2.96 ± 1.01	3.35 ± 1.05	3.51 ± .90	2.72 ± 1.15
EMP	3.09 ± 1.13	3.51 ± 1.12	3.02 ± 1.07	3.14 ± 1.00	3.2 ± 1.06	2.85 ± 1.15

Concerns with Micro-credential Programs

Respondents were asked to rate their level of concern for the following, given a five-point Likert scale of “Not at all a concern” to “Extreme concern.” Responses were coded into numeric values, with one representing “Not at all a concern” to 5 representing “Extreme concern.” Averages and standard deviations for each group can be found below in Table 5.

An independent samples t-test was conducted on the above concerns. There was a significant difference between EMPs and HIED professionals in concern levels with “Limited Recognition Across Industries,” with HIED being more concerned than EMPs ($t_{135} = 1.87, p < .05$). No other concerns were statistically significant across groups. However, “Lack of Standardization” neared significance ($p = .07$). When placed in rank order, employers and higher education professionals were the least concerned about cost, and both groups’ top two concerns were limited recognition across industries or questionable quality and rigor.

The survey’s final question was open-ended, allowing respondents to provide any additional comments. This revealed some interesting insights, including—paradoxically—both areas of alignment and vast differences between the two groups. One common thread throughout final comments was respondents’ honesty regarding their own familiarity with micro-credentials or what they are intended to mean. Three employers explicitly stated that they were unfamiliar with micro-credentials and found the survey difficult to respond to. One employer response summed it quite well, expressing their concerns vividly: “I just do not know a lot about them. Like what does it take to obtain them? Are they legit? How hard is it to obtain them? Can anyone with the intelligence of a grapefruit get them?” Five HIED respondents echoed these concerns, highlighting the ambiguity in terms, outcomes, and relevance. One respondent stated, “I don’t really know anything about

micro-credentials. I think, if they are important or becoming more prevalent in the workforce/hiring process, that they should be more promoted and talked about.”

Both respondent groups also highlighted specific concerns regarding this new phenomenon. Some HIED professionals believed that focusing so heavily on workforce outcomes may dilute the overarching mission of higher education. One particular response highlighted the possible slippery slope of partnering with employers to create curriculum and programs more specifically for them.

The potential influence/power dynamic that could emerge between a school and a large corporation ... As schools continue to struggle with funding and enrollment, this could act as a Trojan horse for large corporations to invest in schools and change how they fundamentally work, as the critical thinking of a liberal education is replaced with the need to know skillset that has been specifically designed for a small number of roles in that particular corporation.

In contrast, one employer respondent felt the opposite, specifying that more time spent in training, particularly within higher education, was a waste, and future workers would benefit more from being directly in the workforce (emphasis from respondent).

Honestly, just go get a job. Actually work. Get out of the classroom and into real life. THAT is what MOST applications are missing. The ability to actually WORK in real life. College is such a waste of time and money. Get in touch with reality.

Both of the above provide powerful insights into the current state of education, as employers, consumers, government

entities, and others seek more direct relations between education and the workforce.

However, respondents from both groups also have hope for short-term programs. Final responses included optimism for the future of micro-credentials in HIED and the continued prevalence of additional training and professional development for employees.

DISCUSSION

An ever-changing labor market has pressured HIED professionals and employers alike to remain current with the educational aspirations and attainments of learners and potential and current employees. In this climate, staying abreast of innovation means understanding and evaluating micro-credentials. HIED professionals are tasked with creating, validating, and marketing these credentials to learners, while employers are tasked with assessing their value and credibility in the hiring process. Given the significant increase in offerings of micro-credentials or alternative credentials, it has become increasingly important for HIED professionals and employers to assess their relationship to these short-term programs and the impacts of such programs. Still, our results demonstrate that only 10% of employers and 15% of HIED professionals are very familiar with micro-credentials. While in concept over a decade old, micro-credentials retain both their jargon and buzzword status, with HIED professionals and employers lacking awareness and familiarity.

HIED professionals were more likely than employers to be familiar with micro-credentials, likely because HIED institutions offer these types of programs to learners, and, by nature of the profession, HIED professionals are routinely exposed to new educational frameworks, ideology, and opportunities. One would anticipate that employers would be equally or more familiar with micro-credentials, as the concept of these programs is often to make job candidates more appealing to employers. However, interestingly, this study did not find that to be the case. Further, years of professional experience were not significantly associated with familiarity with micro-credentials for HIED professionals nor for employers. Even for those who have worked longer and thus have been exposed to numerous trends in the job market, the understanding of micro-credentials remains opaque.

This may all be because micro-credentials lack a standardized definition. As noted by Varadarajan et al. (2023), there is a distinct lack of consensus in defining micro-credentials. Some survey respondents may be familiar with other short-term programs that could be considered micro-credentials, but are simply called something else, such as professional certificates. Without a standardized definition or even agreed-upon terminology, it is difficult for professionals to accurately judge their familiarity with the concept. Relatedly, the implementation, design, and marketing of short-term programs vary widely across businesses, organizations, and higher education institutions, further complicating an already elusive phenomenon.

Even without familiarity with micro-credentials, HIED professionals and employers identified the importance of various criteria for these short-term programs. HIED professionals found skills assessment and alignment with labor market trends criteria more important than employers did. However, when criteria were placed in rank order, both HIED professionals and employers listed skills assessment as a top concern for micro-credentials. Employers were also concerned with recognized certification or accreditation. These results highlight the dissonance between the two industries and the fact that constituents value multidimensional credential design.

While some have historically believed that a key way to build employer buy-in for micro-credentials was for HIED to work with specific partners to create new, personalized programs, this may not be the best approach. While a business-to-business (B2B) partnership can help create a meaningful relationship between HIED and an employer, it can also be incredibly risky. Excited about the prospect, it can be easy for institutions to develop a new program, anticipating that the enrollments will come through upon completion. However, without an agreement or binding buy-in from the employer partner, institutions may be left with a costly program that is hyper-personalized to a partner that is no longer interested. Instead, it may be more beneficial to consider using a “plug-and-play” approach. Institutions taking this route design core course content that is used for all partners, but they leave space to build in employer-specific scenarios, projects, or specific skills and details” (Cousar, 2024, para. 10). This is aligned with survey responses as well, as respondents were more likely to want micro-credentials to be aligned with larger labor market trends (87.2%) rather

than hyper-personalized to one employer (44.7%).

Key Characteristics of Micro-Credentials

Alignment with broad labor market trends is a key feature of micro-credentials' ability to be workforce-ready. According to HIED professionals, this was one of the top characteristics of micro-credentials, tied with assessment of skills. Recognized certification or accreditation was the top answer for employers, followed by assessment of skills. Both groups placed the stackability of the credential into additional credentials and/or degrees as of middle importance, while an explicit industry or employer endorsement was the least appealing for both groups. Again, this showcases that both HIED professionals and employers are not as concerned with direct partnership and customization as they are with authentic skills assessment and recognition of the credential. Future research should further explore how HIED and employers define "recognized certification or accreditation" for micro-credentials.

However, based on the respondents' definitions, there are some characteristics that both groups strongly agree on. Micro-credentials are meant to be short, specific, and skills-focused. Completing a micro-credential also results in an artifact, either a certificate or a digital badge. Future research could further explore the anticipated timeline for short-term credentials and how skills should be assessed for these programs.

In addition, key concerns across both groups were identified as "Questionable Quality or Rigor" (number one concern for EMPs, number two for HIED) and "Limited Recognition Across Industries" (number one for HIED, number two for EMPs). As such, increased collaboration between HIED and employer partners could help address these concerns. Employers would gain confidence in the quality and rigor of the programs if they had the ability to see and critique the programs as they were being built. With more employer buy-in, micro-credentials will continue to spread, allowing them to permeate throughout various industries. Therefore, stronger collaborations and partnerships between higher education and employers would help address some of the top concerns found by this study.

Limitations

Our research study presents some limitations. First, all respondents were drawn from Ohio alone because of the state's financial programs to support these short-term credentials. The findings from this study may not be

generalizable nationally. Additionally, survey respondents were not presented with a definition of micro-credentials or provided an example of a micro-credential program; it's possible that if respondents had been prompted, they would have recognized other short-term programs they have encountered as falling under the umbrella of micro-credentials. Only the perceptions of HIED professionals and employers were included; additional perceptions of students/learners and policymakers would benefit future research into the topic. However, this study does lay some groundwork for future research to further explore how different constituent groups perceive and value micro-credentials.

Implications for Cooperative & Experiential Education Professionals

The findings from this study may be of particular interest to cooperative and experiential education professionals who inhabit the convergence of education and workforce. Despite the rapid growth of micro-credentials nationwide, only 10% of employers and 15% of HIED professionals were "very familiar" with them. Open-ended responses further demonstrated widespread confusion about their definitions and purposes. This lack of familiarity, coupled with a lack of shared terminology, highlights the need for institutions of HIED to provide transparent credentials, including public descriptions of competencies, key skills, and verifications of how skills or competencies were demonstrated. Transparent metadata directly embedded with digital badging software can help alleviate some of these concerns. Professionals seeking further guidance or wishing to learn more should refer to 1EdTech's Open Badge Standards (1EdTech, 2025) or Credential Engine's Credential Transparency Description Language (Credential Engine, 2025), both of which provide frameworks for improving clarity and consistency in credentialing communications.

Across both employers and higher education professionals, respondents prioritized skills assessment and alignment with labor-market trends. Employers were equally interested in recognized certifications or accreditation. This showcases a preference for real-world, tangible work products, such as participants producing reports, communications, code, or projects. Where feasible, program or course outcomes should be mapped to already-existing professional certifications or competencies (i.e., PM for Project Management skills), which will strengthen the institutions' credentials. For example, Miami University's Cybersecurity

Foundations micro-credential aligns its course outcomes with the CompTIA Security+ certification, preparing students who complete the course to sit for the exam and earn an industry-recognized credential. During the course, students demonstrate their technical abilities through hands-on simulations and produce other artifacts, such as written reports on how cybersecurity policies may vary across the globe or between industries. As such, when students complete the course, they not only finish with the ability to sit for an industry-recognized credential successfully but also have tangible artifacts that could be added to a professional portfolio.

Qualitative comments demonstrated the need to find a balance between employers looking for workforce-ready hard skills and HIED professionals' preference for well-rounded education. Cooperative education professionals can help bridge this divide by combining hard-skill artifacts and guided reflections. For example, a student completing an internship might need to produce specific artifacts during this experiential learning related to their industry, such as a written report, a technical drawing, or a data-tracking spreadsheet. Students could then be asked to compile these artifacts and how they foresee them demonstrating their workforce skills into a project portfolio. A similar method

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REFERENCES

1EdTech. (2025). Open Badges. *1EdTech*. <https://www.1edtech.org/standards/open-badges>

Binkley, C. (2023, March 10). *Why more Americans are skipping college*. PBS. <https://www.pbs.org/newshour/education/why-more-americans-are-skipping-college>

Brenan, M. (2023, July 11). *Americans' confidence in higher education down sharply*. Gallup. <https://news.gallup.com/poll/508352/americans-confidence-higher-education-down-sharply.aspx>

Clochard, A., Hatton, T., Nitschke, J., Taska, B., & Vankudre, R. (2022). *Moving Up and Moving Forward: Advancing Mobility for Adult Learners*. Lightcast. <https://4906807.fs1.hubspotusercontent-na1.net/hubfs/4906807/Moving%20Up%20and%20Moving%20Forward%20V6.pdf>

Costello, E., Soverino, T., & Bolger, R. (2022). Mapping the MOOC research landscape: Insights from empirical studies. *International Journal: Emerging Technologies in Learning*, 17(14), 4-20. <https://doi.org/10.3991/ijet.v17i14.28721>

could help students think about how they have shown NACE Career Readiness Competencies, such as by articulating their self-development throughout their experiential learning or demonstrating leadership through taking the initiative to ideate a new process or project (NACE, 2024). This will help students further articulate what they have learned, how they applied it, and how it relates to broader workplace and liberal arts competencies like critical thinking, teamwork, and communication. Embedding hard and soft skills into micro-credential requirements can help students better grasp how their academic and professional journeys connect while offering employers more tangible evidence of skills and competencies.

Taken together, these strategies underscore a micro-credentialing approach that values both hard and soft skills while promoting transparency and workforce alignment. Establishing shared, transparent definitions, adopting common frameworks, and embedding authentic and real-world assessments can help cooperative and experiential educators strengthen the partnerships between higher education and industry. Ultimately, this approach also benefits students, giving them portable, verifiable, tangible artifacts of the competencies developed throughout their experiential journeys.

Coursera. (2022). *Advancing higher education with industry micro-credentials*. Coursera. <https://pages.coursera-for-business.org/rs/748-MIV-116/images/Industry-Micro-Credentials-Report.pdf>

Cousar, D. (2024, Jan. 5). *Scaling microcredential programs through employer partnerships? Minimize risk with these three practices*. EAB. <https://eab.com/resources/blog/adult-education-blog/scaling-microcredential-programs-employer-partnerships/>

Credential Engine. (2022). Counting U.S. postsecondary and secondary credentials. *Credential Engine*. https://credentialengine.org/wp-content/uploads/2023/01/Final-CountingCredentials_2022.pdf

Credential Engine. (2025). Credential transparency description language. Credential Engine. <https://credentialengine.org/credential-transparency/ctdl/>

- D'Agostino, S. (2023, March 2). *Microcredentials confuse employers, colleges and learners*. Inside Higher Ed. <https://www.insidehighered.com/news/2023/03/03/microcredentials-confuse-employers-colleges-and-learners>
- Dougherty, K. J., & Natow, R. S. (2020). Performance-based funding for higher education. *Higher Education*, 80(3), 457-478. <https://www.jstor.org/stable/10.2307/48736422>
- European Commission. (2022). *Commission kick-starts work on the European Year of Skills*. European Commission Press Release. https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_22_6086/IP_22_6086_EN.pdf
- Fong, J., Etter, B., & Sullberg, D. (2023, Feb.). *The effect of employer understanding and engagement on non-degree credentials*. UPCEA. https://upcea.edu/wp-content/uploads/2023/05/The-Effect-of-Employer-Understanding-and-Engagement-on-Non-Degree-Credentials_UPCEA-and-Colleges_February-2023.pdf
- Fuller, J., & Raman, M. (2017, Oct.). *Dismissed by degrees*. Accenture, Grads of Life, Harvard Business School. <https://www.hbs.edu/managing-the-future-of-work/Documents/dismissed-by-degrees.pdf>
- Gauthier, T. (2020). The value of microcredentials: The employer's perspective. *The Journal of Competency-Based Education*, 5(2). <https://doi.org/10.1002/cbe2.1209>
- Governor's Office of Workforce Transformation. (2019, Sept. 25). *Ohio launches "TechCred" to give businesses access to top tech talent*. Workforce Transformation. <https://workforce.ohio.gov/news/092519>
- Harvey, B. C. (2021). Teetering on the demographic cliff, part 1. *Planning for Higher Education*. <https://plan.colostate.edu/wp-content/uploads/sites/18/2022/01/Harvey-2021-Demographics-SCUP.pdf>
- Janzow, P. (2014, Oct). Connecting learning to jobs through digital badges. *The Catalyst*, 42(2), 9-11.
- Jones, J. (2025, July 15). *U.S. Public trust in higher ed rises from recent low*. Gallup. <https://news.gallup.com/poll/692519/public-trust-higher-rises-recent-low.aspx>
- Kelchen, R. (2017). *Higher education accreditation and the federal government*. Urban Institute. <https://www.urban.org/sites/default/files/publication/93306/higher-education-accreditation-and-the-federal-government.pdf>
- Kochhar, R., Parker, K., & Igielnik, R. (2022). *Majority of U.S. workers changing jobs are seeing real wage gains*. Pew Research Center. <https://www.pewresearch.org/social-trends/2022/07/28/majority-of-u-s-workers-changing-jobs-are-seeing-real-wage-gains/>
- Maina, M. F., Ortiz, L. G., Mancini, F., & Melo, M. M. (2022). A micro-credentialing methodology for improved recognition of HE employability skills. *International Journal of Educational Technology in Higher Education*, 19(10). <https://doi.org/10.1186/s41239-021-00315-5>
- Maxwell, N., & Gallagher, S. (Eds.). (2020). *New Directions for Community Colleges: Credentials for a New Era of Work and Learning* (189th ed., Vol. 2020). Wiley. <https://onlinelibrary.wiley.com/toc/15360733/2020/2020/189>
- NACE. (2024). *Competencies for a career-ready workforce*. National Association of Colleges and Employers. https://naceweb.org/docs/default-source/default-document-library/2024/resources/nace-career-readiness-competencies-revised-apr-2024.pdf?sfvrsn=1e695024_6
- National Center for Education Statistics. (2023). Immediate college enrollment rate. In *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. <https://nces.ed.gov/programs/coe/indicator/cpa>
- Ohio Department of Higher Education. (2025). *Ohio's Campuses*. <https://highered.ohio.gov/about/ohios-campuses/map>
- Ohio Governor's Office of Workforce Transformation. (2024, Jan 23). *Husted announces 15 new IMAP training providers*. Ohio Common Sense Initiative. <https://content.govdelivery.com/accounts/OHCSI/bulletins/3868b85>
- Ositelu, M. O., McCann, C., & Laitinen, A. (2021, May 3). *The Short-term credentials landscape*. Lumina Foundation. <https://www.luminafoundation.org/wp-content/uploads/2021/05/the-short-term-credentials-landscape.pdf>
- Pew Research Center. (2016, October 6). *Based on a Pew Research Center survey conducted in association with the Markle Foundation*. Pew Research Center. Retrieved April 5, 2025, from https://www.pewresearch.org/wp-content/uploads/sites/20/2016/10/ST_2016.10.06_Future-of-Work_FINAL4-1.pdf

- Pfeffer, T., & Skrivanek, I. (2018). What is the recognition of credentials not just a matter of good will? Five theories and the Austrian case. *European Journal of Cultural and Political Sociology*, 5(4). <https://doi.org/10.1080/23254823.2018.1449126>
- Reynoldson, M. (2023). Marketing micro-credentials: An analysis of actors, voices and messages in educational innovation discourse. *Innovations in Education and Teaching International*, 60(6), 953-963. <https://doi.org/10.1080/14703297.2022.2083657>
- Robinson, C. (2024, March 30). How To Successfully Change Careers With No Experience. *Forbes*. <https://www.forbes.com/sites/cherylrobinson/2024/03/30/how-to-successfully-change-careers-with-no-experience/>
- Stover, D. (2025, Jan. 22). *Governor DeWine announces November TechCred results*. News Releases. <https://governor.ohio.gov/media/news-and-media/governor-dewine-announces-november-techcred-results>
- U.S. Department of Labor. (2024). *US Department of Labor, Commerce release skills-first hiring guide to help employers hire, promote workers, based on skill and knowledge*. U.S. Department of Labor. <https://www.dol.gov/newsroom/releases/osec/osec20241113>
- Varadarajan, S., Koh, J. H. L., & Daniel, B. K. (2023). A systematic review of the opportunities and challenges of micro-credentials for multiple stakeholders: learners, employers, higher education institutions and government. *International Journal of Educational Technology in Higher Education*, 20(1). <https://doi.org/10.1186/s41239-023-00381-x>
- Walters, D. (2004). The relationship between postsecondary education and skill: Comparing credentialism with human capital theory. *The Canadian Journal of Higher Education*, 34(2), 97-124. <https://doi.org/10.47678/cjhe.v34i2.183458>