Micro-credentials for Social Mobility in Rural Postsecondary Communities: A Landscape Report

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March 2022

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Suggested Citation

Executive Summary

In a rapidly changing economy, micro-credentialing has emerged as a time-saving and cost-effective method to help learners get recognition for their skills.

Micro-credentials are digital certifications that verify an individual's competence with a skill or set of skills. They can be earned asynchronously and stacked together to demonstrate readiness for in-demand jobs.

Today, postsecondary providers are working to revitalize regions that have been deeply affected by recession, geographic isolation, limited industry, and systemic biases. The pandemic has intensified the need to leverage digital tools, such as micro-credentials, to promote local economic growth.

This report explores the impact of earning micro-credentials on the *social mobility* of rural learners, prioritizing those impacted by poverty, particularly Black, Latina/Latino, and Indigenous populations, as well as women.

We selected four innovative postsecondary institutions that are using micro-credentials to create real-time career pathways for rural learners. These include: Kentucky Valley Education Cooperative, Savannah Technical College/Technical College System of Georgia, Tennessee State University's Center of Excellence for Learning Sciences and the University of Maine System. Preliminary research indicates that micro-credentials can—and in some cases, do—lead to job promotions, higher wages, and an increase in self-confidence for rural learners.

Key Findings

We identified five key themes across all four rural micro-credentialing initiatives.

Partnerships

All initiatives emphasize a need for developing regional, sustainable partnerships across sectors and increasing efforts to engage communities of color. Successful initiatives included universities, adult education, including prison education and reentry programs, and employers. In Tennessee, several organizations and networks are working to promote online learning and micro-credentialing for early childhood education professionals across the state.

Employer Recognition

Program administrators and learners want to ensure that prospective employers recognize and value skills demonstrated through micro-credentials. For instance, after completing an 8-week program in Georgia, micro-credential earners were hired at 19 years of age given the confidence in the quality content of the programming.

Program Sustainability

As the three university-based pilots are in the process of scaling up into more robust statewide programs, efforts to maintain programming were thought to depend on a number of factors, including a desire for more robust data collection methods and data interoperability across multiple institutions. Administrators recognized the need to improve messaging to potential learners, employers, and funders about the value of micro-credentials.

Program Appeal

Across all initiatives, program appeal was influenced by affiliations with the respective educational institutions. Affordability and program flexibility were also imperative to learners. Perceived use and value of micro-credentials were the most important reasons for motivation for program developers and earners. In Kentucky, some teachers earning micro-credentials were able to increase their rank and wages.

Potential for Learning/Higher Education Attainment

An ability to earn new skills, obtain credit for prior knowledge, and access to varied content were significant factors of the perceived value of micro-credentials among rural learners. Earners perceive micro-credentials to be beneficial to include on resumes given that they may set them apart from other candidates. In Maine, earners sought to ensure that micro-credentials were readily transferable to college credit, including women in state correctional facilities.

Conclusions

Most postsecondary programs offering micro-credentials are still in pilot phases. In order to determine whether micro-credentials can promote social mobility for rural learners, particularly poverty-impacted Black, Indigenous, and People of Color (BIPOC) learners, institutions need to plan for long-term impact and evaluation.

Quantitative Data Collection

Initiatives recognized the need to collect and monitor data related to student demographics, educational attainment outcomes, and wages. Collecting effective data can help to ensure that data systems across organizations are interoperable and that there is funding provided to support personnel that can be responsible for collecting and analyzing information.

> *"I think that micro-credentials are a great way to allow people to have the opportunity to achieve things that maybe otherwise they couldn't. I go back to the whole concept of making it micro, making it smaller, condensing the information so that you experience success quicker versus having a string of courses and months before you can see any gratification that comes from being able to successfully complete it. I think that part of it is great and new. I know for me and traditional classroom settings, when you talk about a semester, that's a long time. But if I can meet small goals and feel accomplished, then that might give me what I need to go on and not quit, and see that it's attainable."*
>
> – *Yolando Ingram (Learner)*
> *ClearPath ECE, Tennessee State University Genesis Family Child Care, Owner/Operator*

Increasing Communications

Program administrators recognized a need to improve messaging and increase communications about their work, the value of micro-credentials, and ways for prospective earners and employers to get involved. Specifically, earners expressed a desire for certainty regarding the transferability of micro-credentials toward degree earning programs.

Further research is needed to better understand the long-term impact on social mobility for micro-credential earners, particularly for BIPOC. Such efforts may be observed by focusing on efforts across the rural south, specifically looking at the efforts of Historically Black Colleges and Universities (HBCUs), Hispanic Service Institutions (HSIs), as well as Tribal Colleges and Universities (TCUs).

Funding for this project is generously provided by Ascendium Education Group. Reach out to the Digital Promise Adult Learning Team to learn more at adulted@digitalpromise.org.

Introduction

Efforts to significantly expand rural talent pipelines have intensified amid the ongoing COVID-19 pandemic, leading to partnerships across sectors toward *inclusive economic recovery*[1]. Prior to the pandemic, research identified several factors contributing to low educational attainment and social mobility for rural residents, including systemic barriers, economic recession, geographic isolation, and limited career prospects[2]. However, pervasive narratives about rural America frequently leave out the experiences of Black, Indigenous, and People of color (BIPOC) despite economic disadvantages remaining more acute in their rural communities than their white and urban counterparts. The pandemic has exposed and widened existing inequities in rural America. It has also made clear the need for policymakers and practitioners to acknowledge the diverse nature of rural communities and design solutions that lead to successful outcomes for poverty-impacted BIPOC in rural communities[3].

In the past decade, micro-credentialing has emerged as a time-saving and cost-effective method to prepare workers in an ever-changing job market. The potential value of micro-credentials beckons the exploration of their development as a new learning and assessment approach, as well as how they may factor into economic recovery. Could micro-credentials be part of the design solution that leads to greater economic outcomes for poverty-impacted rural communities, particularly BIPOC?

In 2021, Digital Promise conducted a landscape study to explore the impact of earning micro-credentials on the social mobility of learners, defined as an individual's ability to change their position within a social system[4]. In line with our focus, we connected with key stakeholders in the rural postsecondary and education community across North America, including administrators, educators, policymakers, and most importantly, adult learners, to understand the extent to which micro-credentials may lead to credential attainment, workforce entry and/ or promotions, and/or economic improvements such as salary increase, prioritizing outcomes for poverty-impacted BIPOC.

From expanding access to digital jobs in software development in the Mississippi Delta region to micro-courses for educators in Indiana, there proved to be several promising programs across rural areas in the United States. Taking into consideration criteria such as geographic, demographic, and industry diversity in a region, we ultimately partnered with four of today's most innovative postsecondary institutions who are working to integrate micro-credentials in various capacities in their efforts to create real-time pathways to social mobility for adult learners in rural communities. These communities include: Kentucky Valley Education Cooperative, Savannah Technical College/Technical College System of Georgia, Tennessee State University's Center of Excellence for Learning Sciences, and the University of Maine System.

This report outlines key findings and features of rural micro-credentialing initiatives that are designed to promote social mobility for learners who are impacted by poverty. All of the programs emphasize the need for strong regional partnerships across educational sectors and deeper efforts to engage communities of color to lead to greater impact. Across the programs, there was particularly strong participation from women in the community. At the outset of this study, we aimed to explore the impact of earning micro-credentials for rural learners' social mobility. We learned that this question cannot be fully answered at this stage in programming given the various stages of micro-credential design, implementation, and use, coupled with the undeniable impact of the ongoing pandemic on the field of education, training providers, institutions, employers, and adult learners. Still, we learned a great deal about how micro-credentials are being used to create accessible, affordable, and innovative training opportunities in rural postsecondary communities. The question remains on whether rural communities, particularly poverty-impacted BIPOC learners, will recognize and experience their value in the long term.

Micro-credentials, Stackable Credentials, and Skills

According to recent studies, there are approximately 967,734 unique credentials in the U.S. in 16 detailed credential categories across four types of credential providers[5]. The majority of these are non-degree credentials, which include certificates, industry certifications, occupational licenses, as well as badges and micro-credentials (see Table 1). Alternative credentials offer earners the opportunity to develop and document skills while traversing the shifting landscape of social, economic, and technological ecosystems. Varied credentials may make it challenging for both higher educational institutions, employers, and earners to compare and determine the validity and quality of different programs, given that there are no universal standards or systems to help workers, employers, policymakers, and educational institutions to define or measure quality[6]. As alternative, non-degree awarding programs continue to become prevalent in the U.S., with an estimated 27% of the population having earned at least one non-degree credential in 2016, the ability for employers and earners to discern those of value from others has become increasingly difficult.

Table 1. Types of Credentials

Credential	Description
Degree	Awarded by a postsecondary education institution to recognize the successful completion of a program of study.
Certificate	Awarded by a postsecondary education institution indicating satisfactory completion of a non-degree program of study.
Course Completion Certificate	Awarded by a Massive Online Open Course (MOOC) provider, bootcamp or other program provider, indicating that the holder has completed a specific course or series of courses.
Occupational License	Awarded by the state licensing board to persons practicing specific vocations and professions.
Occupational Certification	Awarded by an industry or professional association to an individual demonstrating designated knowledge, skills, and abilities in a particular occupation.
Digital Badges (Micro-credentials)	Awarded by an organization in accordance with the Open Badge specification ensuring verifiability, embedded metadata about skills and achievements, and portability.

Adapted from Credential Engine's "Counting U.S. Postsecondary and Secondary Credentials," 2021.[5]

Micro-credentials, digital certifications that verify competence of a skill or set of skills, attempt to stand out among the growing number of educational certifications by providing learners with recognition for the skills they have developed across their education and work experiences. In addition, employers and institutions can verify the credibility of micro-credentials issued as digital badges. They can be "stacked" together to provide certifications or endorsements that signal workforce readiness for in-demand job pathways. Additionally, they have been shown to reduce hiring bias by providing "portable, verified, and secure representation of acquired knowledge, skills, and earned achievement" regardless of background[7]. Research suggests micro-credentials have a positive impact on skills training and economic outcomes.

Micro-credentials for Social Mobility. Meyer et al.[8] investigated whether "stacking" (i.e., combining micro-credentials that build on top of one another) influenced wage increases. They found that this practice increases employment by four percent and quarterly wages by seven percent. However, they noticed larger increases for people obtaining short-term certificates as their first credential.

Micro-credentials for Skill Development. Perna[9] argues that micro-credentials can solve the current skills gap, given that they are specific in range and take less time to acquire than traditional credentials, providing a scalable and cost-effective solution for businesses, as well as individualized, on-demand training for workers. Partnering with universities, businesses can ensure quality content while providing workers with credentials from reputable institutions.

Micro-credential Use in the Education Sector. In the education sector, school districts are making use of micro-credentials as part of educator professional development. Luke and Young[10] explored how five school districts integrated micro-credentials into professional development in computational thinking. Their results demonstrate promise for increasing learner confidence, skill set, salary, and professional network. School districts saw the value of embedding micro-credentials into existing professional learning pathways to promote educator agency and expand competency-based learning practices with students.

School districts, cooperatives, and teachers are using micro-credentials as professional development across the U.S., with regions as diverse as Appalachia to Puerto Rico. In eastern Kentucky, Scarborough Carroll[11] found that students taught by teachers who engaged in micro-credentialing as compared to teachers who engaged in other forms of professional learning had significantly higher levels of academic achievement. In Puerto Rico, Lopez and Younge[12] investigated teacher perceptions of earning micro-credentials as professional development. Teachers in Puerto Rico face unique challenges, such as access to technology and financial support for professional development. Lopez and Younge found that teachers generally found value in using micro-credentials for professional development, citing possibilities of salary increases as a large motivator.

A primary objective of this project is to identify existing and emerging instances of micro-credentials in rural industry, education, and training initiatives in order to inform the field about the value and use of micro-credentials as a tool for equitable economic recovery. More precisely, we aim to understand how micro-credentials are being leveraged to reduce systemic biases, signal worker readiness to employers, and promote social mobility in rural communities.

Methodology

Qualitative and quantitative data were requested from four education and training institutions that are using micro-credentials to create in-demand career pathways in rural communities. Prior to data collection, the community selection process began with outreach to partners in existing networks across Digital Promise adult learning and micro-credential initiatives. In addition, we sent a call for community participation through various blogs, listservs, and newsletters, including the Digital Promise Adult Learning Spotlight. We reached out to potential providers serving rural communities to understand whether and to what extent their community, or any communities they know of, are using micro-credentials with poverty-impacted rural learners and generated a comprehensive list of communities for deeper investigation. Next, we employed *purposeful selection*[13], a strategy in which communities are selected deliberately in order to provide information that can not be collected by random sampling methods. This strategy was used to ensure that participants represented diverse experiences and perspectives related to micro-credential use in rural communities and to prioritize the inclusion of poverty-impacted people of color in rural communities. For the purpose of this study, dimensions included: demographic and background data, industry, geographic area, stakeholder needs, resource availability, relationship to Digital Promise, and knowledge related to micro-credential design, use, and implementation. One of the communities was selected through *convenience sampling*[14], given Digital Promise's existing network of partnerships in the field, to address poverty in rural areas. It is important to note that we started our research with five communities, but one of the select institutions was not able to complete the study understandably due to staff capacity and pandemic-related challenges.

Focus groups were conducted with key stakeholders in the micro-credentialing initiative which included micro-credential *developers, earners, assessors, issuers, and recognizers** at each of the participating institutions and lasted approximately 45–65 minutes each (see Appendix, Table 5). Additionally, individual interviews with multiple key stakeholders as well as participating learners were conducted. All interviews were approximately 30–45 minutes via Zoom. During individual interviews, we explored the extent to which learners were able to a) increase their income, including job promotion and attain higher degrees of learning, and b) the extent to which employers shift their perceptions and biases on the skillsets of rural learners. This included asking rural learners about how skills attainment and verification through micro-credentials impacts their perception and confidence about their abilities and opportunities. Learners were compensated for their time.

All interviews were recorded and transcribed. Each transcript was coded by two researchers to ensure reliability. After coding was completed, thematic analysis of the qualitative data was performed to search for convergent themes, narratives, and contextual relationships. Analytical approaches drew on Maxwell's[14] qualitative analysis methods, including: 1) researcher memos, 2) categorizing strategies using thematic analysis, and 3) connecting strategies through narrative analysis. This methodology enables reliable, yet flexible interpretation of the data which will allow researchers to more openly learn from the insights of those interviewed. We also sought to integrate quantitative data from the regions, such as micro-credential program enrollment, retention, credential attainment, and/or salary outcomes.

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* For the purpose of this study, we referred to the terms used by The Council of Chief State School Officers (CCSSO) and Digital Promise, who led a task force to highlight design, assessment, and implementation principles for educator micro-credentials: https://ccsso.org/sites/default/files/2020-01/Micro-credentials%20-%20Design%20 Principles_FINAL_1.pdf

Sample

Table 2. Number of Focus Group Participants

	Kentucky Valley Education Cooperative	Technical College System of Georgia	Tennessee State University - ClearPath ECE	University of Maine System's All Learning Counts
Focus group participants (administrators)	7	3	4	6

Table 3. Number of Individual Interviewees

	Kentucky Valley Education Cooperative	Technical College System of Georgia	Tennessee State University - ClearPath ECE	University of Maine System's All Learning Counts
Administrator Individual Interviews	3	3	4	6
Learner individual Interviews	3	1	3	5

Due to the low amount of quantitative participant data available, a comprehensive quantitative analysis of learner outcomes was not possible to complete for the purposes of this study. Several institutions acknowledged a need to improve upon data collection, particularly in terms of data interoperability across institutions (higher education, adult education, training providers, and employers) given the extensiveness of their programming. While there was ample demographic information, the data obtained from sites were not in line with the research question assessing shifts in socioeconomic mobility. Additionally, the number of participants earning micro-credentials was not robust enough to conduct thorough analyses. In the appendix of this report, a template is included to provide a method by which initiatives can collect information that will yield robust data that can be analyzed to assess program outcomes.

Key Findings

At the outset of this study, we aimed to understand the value and use of micro-credentials as a tool for social mobility, and determine how they may be leveraged to reduce systemic biases for BIPOC learners, signal worker readiness to employers, and result in higher education and/or earnings for poverty-impacted learners. We learned that micro-credentialing programs are being designed to create more accessible, affordable, and innovative training opportunities in rural postsecondary communities. However, most of the programs are still in the development, pilot, and expansion stages. Initiatives developed pilot micro-credentialing programs in varied fields, including Educator Professional Development, Information Technology, and Manufacturing. Given the early stages of the initiatives and the impact of the pandemic on rural learners, education and training institutions, as well as employers, many participants have not yet completed a substantive number of micro-credentials.

Notwithstanding that most programs are still in pilot phases, the majority of learner participants in this study reported that micro-credentials yielded increased opportunity for skill development, job promotion, salary increase, credential attainment and/or enrollment in additional educational programming. Learners in both Maine and Georgia earning micro-credentials in computer support and manufacturing respectively expressed clearer pathways and a notable return on their invested time. Program participants, earning educator micro-credentials in Kentucky and Tennessee, working on continuing credits in K-12 and ECE, emphasized the flexibility of micro-credentials in their pursuit of increased teacher ranking and positioning within their respective fields that they recognized as having limited space for position changes with their organizational structures.

In both Kentucky and Georgia, there was notable realized value in the form of wage increases. In Kentucky, that was achieved in the form of increased teacher rank. Several micro-credential earners indicated that they were able to move from Rank II to Rank I, resulting in higher salaries. In Georgia, that came in the form of obtaining new employment in a different field. Two recent high school graduates were able to obtain employment in the manufacturing industry as a result of a two month accelerated program offered by TCSG.

Most participants indicated that micro-credentials are an effective way to demonstrate evidence of existing or newly obtained skills or competencies. Employers and instructors in Maine, Kentucky, and Georgia echoed this sentiment, stating that skills were evident upon completion of multiple badges. For all of the educational intuitions, there are shared perspectives that offering micro-credentialing lends to more comprehensive models for offering educational pathways, considering the ever-changing landscape of credentialing options to reinforce skills, reskill, and provide new skills.

As a result of this study, we identified five key themes across all the rural micro-credentialing initiatives, including: 1) partnerships, 2) employer recognition, 3) program sustainability, 4) program appeal and 5) potential for learning/higher education attainment.

Partnerships

The most prevalent theme that emerged was the importance of fostering and maintaining key partnerships in order to develop and sustain programming. With three of the initiatives housed within colleges and university settings, these affiliations were perceived to be the most important to those earning micro-credentials. These programs build relationships between their colleges/universities, community colleges*, adult education, skills training programs, and prison education programs. In addition, programs relied on nonprofits and multiple levels of government for thought partnership and to fund programming. Often, prospective learners relayed to program administrators that facilitating relationships with organizations that served as prospective employers was an important aspect of program appeal and initial engagement. Partnerships also impacted program enrollment, as potential earners learned about each initiative's micro-credentialing programing via affiliations with various organizations. Methods of outgoing communication to potential earners vary by initiative and remain a point of concern, which they plan to continually address by both increasing volume and uniforming messaging across partners.

> "We are working with a coalition around the state that have organized ourselves to think about how we might develop an ecosystem for micro-credentials around the state. We have 11 different partners involved. We have the Maine community college system, the University of Maine System, the Adult Education through the Department of Education, the Department of Corrections, Department of Labor – the State Workforce Board piece, Educate Maine, and a few others. The Maine State Library is also part of that."
>
> – Dr. Claire Sullivan (Issuer), Assistant Vice Chancellor for Innovation in Digital Badges and Micro-credentials, University of Maine System

Employer Recognition

> "Our principal knows a lot about micro-credentials. She's worked with KVEC very closely and she sees the value in it. So, she will suggest, "Hey, maybe there's a micro-credential that you could complete in your professional growth plan. You're saying that you're wanting to work on engaging students as your personal goal. Go see if you can find a micro-credential that's going to help you to meet that." She pushes for that. And I think that you're viewed as someone that has initiative and that can complete tasks."
>
> – Wrendi McDavid (Learner), Teacher, Kentucky

A significant amount of appeal to engage in programming relied on the recognition of the educational institutions' names, thereby lending credibility. Training programs, prison education programs, and government entities provided partnerships that generated integration across sectors of communities. Additionally, knowledge of affiliation with specific employers also compelled prospective learners to programs. Several earners in the All Learning Counts - Maine program indicated that they were compelled to participate, in part, due to their affiliation with the University of Maine System. Similarly, earners in Georgia participated due to the program affiliation with the Technical College System of Georgia, as well as the communicated proximity to employers, which participants visited during their training. Consequently, the importance of employer recognition is among the most prominent themes, as program administrators and participants want to ensure that prospective employers understood that there was a recognized benefit of hiring and retaining earners of micro-credentials.

* See findings from Education Design Lab's BRIDGES Rural initiative to learn more about the capacity of rural community colleges to serve as critical economic growth engines for their learners and communities. Note, Eastern Maine Community College participated in both BRIDGES and Digital Promise research on micro-credentials.

Program Sustainability

As the three university-based pilots are in the process of scaling up into more robust statewide programs, efforts to maintain programming were thought to depend on a number of factors, most notably a desire for data interoperability across multiple institutions. Importantly, in order to ensure program sustainability, administrators recognized the need to increase messaging to potential earners, employers, and funders about the value of the initiatives.

> *"We did have students who are really keyed in on the fact that this is worth college credits to them and how it could translate in the future. That, I think, is another big message and an important one. Rather than having 70 Adult Ed. programs, have articulation agreements with college campuses to be able to say, 'If I earn this micro-credential, I know it's going to be worth three credits wherever I go,' I think is a really powerful thing."*
>
> *– Amy Poland (Developer)*
> *Professional Development Coordinator, Maine Department of Education, Office of Adult Education*

Program Appeal/Feasibility

Pervasive throughout the findings is that micro-credentials are most appealing to earners as a function of the flexibility and the financial savings that are afforded by engaging in such programming. An ability to complete online modules independently and/or engage in abbreviated programming was appealing to all participants. Several program participants noted that the ability to complete some modules in less than 10 minutes was a welcomed aspect of the program.

> *"A lot of the students that I work with had very difficult experiences in education... To be able to [offer micro-credentials] was a very safe way, I think, to try it differently without investing money in college. It kind of opened up a door to keep going with education."*
>
> *– Abbie Embry-Turner (Instructor)*
> *Teacher, Southern Maine Women's Reentry Center*

Perceived use and value of micro-credentials were the most important reasons for motivation for offering programming and for earners to engage in the programming. In southeastern Kentucky, school administrators perceived a benefit of micro-credentials to teachers and students, which led to their acceptance as professional development and increase in both teacher rank and salary. In Georgia, earning micro-credentials, which accompanied a 2 month training, led to the hiring of recent high school graduates.

Potential for Learning and Higher Education Attainment

For administrators and participants, the potential to learn additional information and new skills were fundamental. Additionally, an ability to obtain credentialing for previously obtained knowledge and continued exposure to varied content was a significant factor of the perceived value of micro-credentials. Specifically, participants maintain perceptions that credentials are beneficial to include on resumes as it may set them apart from other candidates when applying to other educational programs and/or job opportunities.

> *"When I got here, I found out there is no schooling unless you needed a GED. So, I was pretty upset with that. But thankfully, Abby got us to start college. So I am a full-time student with UMA for liberal religious studies."*
>
> *– Student (Learner), Southern Maine Women's Reentry Center*

Education administrators and several participants perceived that there is an ability to transfer micro-credentials to affiliated educational institutions in order to obtain traditional degrees that would be more readily recognized across industries.

All initiatives remain engaged with learners and employers to ensure that credentials earned result in tangible outcomes such as degree attainment, higher incomes, and expanded job placement in growing sectors of their respective regions. However, continued research is needed to measure the long-term impact of earning micro-credentials among rural learners, particularly poverty-impacted BIPOC learners. More specifically, these research efforts highlighted the importance of collecting substantive quantitative data that support the realized benefits of earning micro-credentials across sample populations.

"Verifying skills is very important. One of the problems I have is that I don't think people understand my skills... my education. So, if you give a name to something that somebody is looking for, then they've got that verification, "Oh, yeah. Okay, you've got that skillset that I'm looking for." Whereas, I may have some of those skills right now, but because I don't have a name for them, that verification isn't there. I do use the things I learn [via micro-credentials] at work all the time. I'm looking at other positions in the company."
– Lynn O'Kane (Learner), Maine

Case Studies

The following case studies provide an in-depth look at four innovative postsecondary institutions using micro-credentials to create real-time career pathways for rural learners. Learn about their efforts to establish educator-industry partnerships to collectively meet regional needs.

Kentucky Valley Educational Cooperative (KVEC)

Introduction

As one of Kentucky's nine educational cooperatives, the Kentucky Valley Education Cooperative (KVEC) serves the predominantly White, southeastern Appalachian region of the state, which includes one of the school districts with the lowest average incomes per capita in the nation.

In the heart of rural Appalachia, teachers may be required to travel 3–6 hours to reach in-person professional development opportunities. Given that most districts are over 25 miles away from an urbanized zone, geographical barriers often create financial impediments. Extensive travel times require school districts to coordinate substitute teachers, necessitating unavoidable costs and logistics. According to administrators of the initiative, there are no state funds directly allocated for the required professional learning of teachers. The scarcity of economic resources and widespread financial burden experienced by school districts in their efforts to navigate professional development opportunities persists as a point of concern.

> *"It's important to note that geography has an impact on this professional learning. Most of our districts are rural remote, which means they're more than 25 miles away from an urbanized zone. Ours are more than 25 miles away. So, when we have professional learning opportunities that are being offered at the state level in Frankfurt... some school districts have three or four hours of travel to get there. That requires substitutes, plans, travel, meals. I've lost track of the number of budgets that our state has not provided professional learning funds for teachers. There have been no state funds allocated for professional learning for teachers."*
>
> *– Jennifer Carroll (Developer, Issuer, Assessor) Learning Acceleration Specialist, Kentucky Valley Educational Cooperative*

KVEC has facilitated a niche service, providing free, competency-based flexible professional learning opportunities for rural K-12 educators through micro-credentials. Accordingly, teachers are able to leverage micro-credentials to personalize continuing education credits and increase their rank, thereby, directly increasing their salaries. KVEC's work builds on the specific needs of teachers and students, such as developing micro-credentials in Understanding Types of Poverty. KVEC's micro-credentials are hosted on the Digital Promise Micro-credential Platform and are free and available to the public.

Initiative Description

Through a grant, KVEC partnered with Digital Promise to develop micro-credentials for educators. A collaboration of the State Department of Education, special education providers, and practitioner experts resulted in the creation of a stack of over 18 micro-credentials focused primarily on the needs of students experiencing poverty, as well as special education populations, including those who have experienced hearing and visual impairment. In several instances, the experience and expertise of students and staff have been leveraged to guide and generate the creation of these micro-credentials.

> *"Our district has done a really good job with micro-credentials. Recently, teachers have joined a cohort to work together on completing micro-credentials for a rank change; to get a rank one. In the last couple of years, we've really been given opportunities within the school system to advance in our learning."*
> *– Courtney Kingsmore (Learner), Assistant Principal, Louisa East Elementary School*

Some schools have adopted micro-credentials as a whole, whereby all faculty work on a single or similar micro-credentials based on data pointing to the needs of the schools, as outlined in their strategic plans. Other schools relied on team leads to identify micro-credentials that educators could simultaneously complete based on the demographics of the students served. Such unified efforts to complete modules independently helped with educator buy-in, allowing teachers to gather information as a team and discuss their findings together.

As part of this initiative, the state has also allowed rank changes, resulting in an increase of yearly salaries. Micro-credentials have proven to be an economically feasible option for competency-based professional development, allowing educators to complete modules remotely in their classrooms or the comfort of their homes. Teachers and administrators are able to visualize performance-based learning, which translates to practice; thereby encouraging them to provide students the opportunity to demonstrate their learning in multiple ways and depart from the idea of limiting themselves to traditional textbook approaches.

Collaborating Organizations

Given the positioning of the organization, KVEC has put forth considerable efforts to collaborate with multiple institutions to achieve their goals. They have hosted five national summits focused on micro-credentials, bringing together a range of other educational organizations from across the nation.

KVEC's administrative networks have been developed as a result of regular meetings with regional superintendents, which serve as the cooperative's board of directors. Monthly meetings between district instructional supervisors and professional learning coordinators facilitate knowledge sharing, serving as the main conduit for disseminating information to the region. In addition, the established new teacher network is used to introduce information to encourage early adoption. Districts use this space to dialogue about how they're using micro-credentials, growth they've seen, what challenges they may have experienced, and how they overcame said challenges.

The partnership with the State Board of Education facilitated the regulation change in Kentucky which saw the acceptance of micro-credentials as a means for educator rank advancement.

Partnerships with state universities have formed in an effort to discuss how they might create independent study courses to be more of a competency-based experience that utilize micro-credentials.

Understanding the Value of Micro-credentials in the Kentucky Valley

> *"In the past, what they've done – even when I was teaching – is the school district would have somebody come in and do professional development for teachers, and it may not benefit us a bit. But, they would still bring us all together, K-12, and you'd have this one day of PD. So, you're sitting there knowing that you're not going to take anything back to your classroom and be able to use it that day. In order to expedite the process, that's what districts did. So, I think that with the micro-credentials, they saw that as a way of getting something that would benefit them. It's a job-embedded approach to professionalized learning, personalized professional learning, that's going to help them learn skills while they're right in the classroom with kids. So, for teachers, it becomes meaningful rather than just going to those trainings, sitting there, maybe taking some notes; what we always called a 'sit and get'."*
>
> *– Dr. Dessie Bowling (Developer, Issuer, Assessor)*
> *Associate Director, Kentucky Valley Educational Cooperative*

For many educators, the universal potential value for micro-credentials is evident across eastern Kentucky. In a region where economic hardships impact the lives of teachers, educators have increased their salaries. This is much needed, as teachers expressed that they and their peers are financially burdened and unable to miss a paycheck, causing them to seek additional ways to supplement their household incomes.

Still more, micro-credentials are compelling for a number of other reasons. Each micro-credential focuses on a discrete skill or competency; therefore, they are manageable to busy teachers. Micro-credentials also reduce school spending for professional development, in part, by limited teacher travel. Consequently, they provide stability for students, allowing teachers to remain in classrooms.

From the perspective of teachers and educators, students benefit from increased perspectives: teaching methods and having educators in a school building that better understand who they are and how to teach them. Both administrators and teachers expressed being able to understand the challenges of students that endure the conditions of rural poverty and the impact it has on learning, behavior, and ability to focus in the classroom. While one administrator commented on the reality of the limit of a dollar in the hands of a student in remote eastern Kentucky, unable to exchange it for any portion of a meal, as can be done in metropolitan areas. Moreover, a teacher expressed the benefit of newfound understanding of the possible impact of opioid use across the region and the dynamics of living with grandparents in the absence of a generation of parents.

What's Next?

"In my new role as director of personnel, we are turning over rocks to find teachers right now. I think I'm processing fifteen. Several of them are going through the University of Cumberland, through alternative certification programs. I still have several jobs posted that we're not able to find people to fill. I'm hopeful that when we do find applicants, and if they are alternative certifications, that we can utilize these micro-credentials to expedite their learning because many of them just hold bachelor's degrees, some in university studies. Some might be a bachelors degree in science or different things. But, not a traditional education program. So, they're going to need something like micro-credentials to expedite their knowledge of what's happening in education."

– Anna Prince (Recognizer), Director of Personnel and Pupil Personnel, Lawrence County Schools

In order to increase the impact of micro-credentials, KVEC continues to utilize its resources to promote messaging about the range of competency-based opportunities that it provides to educators in the region.

Given the number of teachers in the region with alternative credentials, districts hope to use micro-credentials to accelerate teacher learning. According to Theresa Wallace, Associate Dean of the University of the Cumberlands, it is hopeful that the institution begins to accept micro-credentials as course credit, granted they meet the learner outcomes of the courses taught at the university. If there are no existing micro-credentials, the university may explore the possibility of developing micro-credentials that have comparable learner outcomes..

While some districts remain undecided about the value of micro-credentials, KVEC is committed based on the observed benefits to teachers and administrators. Uncertainty persists due to Kentucky requiring four days of "seat time" for professional development. Therefore, it's difficult to determine how to equate micro-credentials, given that they are focused on demonstrating content knowledge and not the amount of time spent sitting. However, presently, what is considered "four days" is a decision made by local administrators.

Technical College System of Georgia (Savannah Technical College)

Introduction

Located in the historic southeastern region of Georgia, Savannah Technical College (STC) serves thousands of residents. As a part of the Technical College System of Georgia (TCSG), the system reaches residents statewide, including those enrolled in Adult Education programs, which are enveloped into the college system.

The population continues to grow, both as a function of local residents and influxes from around the country, and there is a growing demand for skilled workers that can take up positions across multiple industries throughout the state. Still, in some rural communities, residents are unfamiliar with the opportunities that may exist outside of their immediate areas. The lack of perceived proximity to opportunity has sustained a gap in skill development. However, there is a need to develop a workforce that has the knowledge and skills necessary to contribute to the growth of industries – such as IT, healthcare, and manufacturing – throughout the state that can provide solid career pathways.

> "I had a student, a conscientious gentleman. He was a dishwasher at one of the hotels about four years ago. Never got a raise. Made minimum wage. He took the course, and we were able to get him a job with an organization in Georgia. He came back one day, gave me a big hug. He goes, "Professor Bill, it was like I won the lottery. I'm making $15 an hour! I cannot believe this!" So, it made me feel so good."
>
> – Bill Stankiewicz (Issuer)
>   Forklift Instructor, Savannah Technical College, Chief Executive Officer, Savannah Supply Chain

In 2020, Savannah Technical College, a unit of the Technical College System of Georgia, was awarded a 4-year U.S. Department of Labor Strengthening Community College Grant of $4.85 million to address labor market demands for a technically skilled workforce. In collaboration with workforce development and employer partners, the goal is to support adult learners statewide, across TCSG, in gaining micro-credentials to demonstrate their skills and transition quickly from unemployment to employment, and to progress in their careers.

Micro-credentialing Initiative

"Right now, companies and communities can't afford for any part of their talent pipeline into the workforce system to be ineffective or inefficient. Unfortunately, right now, many of them are. Returning citizens aren't coming out with the skills they need to obtain great employment and to reintegrate fully. English as a second language learners aren't being educated at the level in which to move into that pipeline. There are kids who aren't college-bound in the traditional sense. There's a lot of underemployed and under-skilled adults. The list could go on. We need to be more efficient at moving everyone into the better career opportunities that exist. I think micro-credentials are a part of improving the efficiency and effectiveness of that system."

– Dr. Brent Stubbs (Recognizer), Vice President for Economic Development, Savannah Technical College

The initial cohort of the summer 2021 pilot program were six Black/African-American and one White recent high school graduates, who were uncertain of what they wanted to do; reflective of a significant portion of the population the program believes may most benefit. This cohort matriculated through the fast-track manufacturing program. It included virtual reality (VR) training in manufacturing skills and utilized a virtual reality forklift simulator to alleviate the potential burden of possibly causing physical damage while teaching forklift driving skills. Upon completion of the program, learners obtained their forklift safety micro-credential and Six Sigma White belt micro-credential, OSHA 10 and first aid/CPR certification. The program also featured soft skills and direct experiences with manufacturing through plant tours and direct employer engagement.

"They had the certification and skills they needed, and the micro-certs proved that they could actually hit the ground running and be an asset from day one to employers."

– Keith Fletcher (Issuer)
Executive Director, Strengthening Community Colleges Grant, Savannah Technical College

Participants had mock interviews with employers to prepare for actual interviews. In the last week of the course, a large number of manufacturing companies came in and interviewed all of them. Two participants were offered jobs in manufacturing companies. Although those companies had the practice of not hiring anyone under the age of 21, according to Executive Director, Keith Fletcher, they made an exception to this practice due to the observed skills and certifications. Four of the participants signed up for additional STC courses in manufacturing or additional postsecondary courses.

Collaborating Organization

The initiative is a partnership of multiple colleges across the state, including:

- Savannah Technical College
- Technical College System of Georgia (11 additional consortium colleges)
- U.S. Department of Labor
- Savannah City Government
- WorkSource Coastal: Georgia

Understanding the Value of Micro-Credentials in Georgia

Administrators envision employers will begin to recognize that earners have experienced rigorous training and application in a real-world setting by looking at a manufacturing micro-credential. New entrants, re-entrants, and career changers are believed to benefit greatly due to micro-credentials decreasing time commitment. It is the hope of both administrators and participants that organizations will be more likely to hire and promote individuals based on micro-credentials.

> "I didn't know too much about it, but I saw that it was manufacturing. They said it could help us reach better possibilities and I wanted to be a part of it. It was a two-month program."
>
> — Briana Herrington (Learner)
>   Forklift Operator, Material Handler

The populations anticipated to benefit most significantly are those belonging to historically underserved communities. The program is reaching out to every demographic across the state of Georgia. While urban areas are the most culturally diverse, rural Georgia is increasing in diversity, having growing numbers of Latina/Latino and Asian residents. There is also consideration to specifically reach individuals who have decided to begin their families at younger ages. Fletcher expects that micro-credentials will lend themselves to younger parents being able to enter career tracks easier, leading to an ability to better support their families faster and at significantly lower costs.

Briana Herrington, a recent high school graduate and participant of the pilot program, expressed her appreciation and support of the program. Now earning significantly more than typical entry-level positions in her area, she stated that motivation for entering the program was to embark upon better opportunities than otherwise available. Having earned micro-credentials in forklift operating, manufacturing safety, and CPR, she believes that micro-credentials could help any learner because they provide different perspectives, access to new industries, and potential advantages if there is competition for positions. Presently a forklift operator, a role she never would have thought to pursue, she believes that micro-credentialing allows people to explore various industries with minimal loss of time or finances in the event that they determine an industry is ill-suited.

> *"You can be a jack-of-all-trades. Let's say you want to do something but you're not sure if you actually want to do it. Then you can just put your foot in the water and see if you like it or not. But, if you actually jump into something and you spend a lot of time on it and then decide you don't want to do it any more, then you'll know a lot about a subject that you might not be interested in anymore after [a significant amount of] time."*
>
> *– Briana Herrington (Learner)*
>   *Forklift Operator, Material Handler*

Economic costs and the time commitment of traditional educational pursuits is a point echoed by the administrators of the program in Georgia. Brent Stubbs, Vice President for Economic Development at Savannah Technical College, recognizes that there will be a need for a paradigm shift for many. He believes that younger people will readily understand the value of being able to explore a career in three weeks as opposed to four years, high costs, and the potential "associated guilt" of walking away from education that took years to complete. Highlighting how changes in educational paths can impact resumes, Stubbs believes that micro-credentials allow learners to pivot, which does not always work out with longer, traditional programs. He underscores the notion that one should not have to sink exorbitant amounts of money into education before realizing an industry is not a good fit.

What's Next?

> *"The SCC grant is a systems-change grant. We are working to incorporate micro-credentialing across all aspects of TCSG which includes development of educational pathways that feature micro-credentials, traditional courses, and fast track programs. We are developing programs and courses that deliver micro-credentials in a more engaging, more accessible manner. We're using the latest technology to do that, VR, AR, interactive IT systems. Everything from Lectora to new pieces from Adobe and Articulate 360. We have brought quite a few of the latest educational tools as well as two exceptional instructional designers into the process to deliver courses that will accommodate everyone, including Adult Ed , our GED and ESL entry students."*
>
> *– Keith Fletcher (Issuer)*
>   *Executive Director, Strengthening Community Colleges Grant, Savannah Technical College*

TCSG & STC will scale their micro-credentialing across the state. The goal is to develop credentials that are more engaging and accessible via innovations such as virtual reality, augmented reality, and interactive IT systems.

Having successfully matriculated a cohort in manufacturing; IT, and healthcare credentialing programs are being established. In addition, a digital badging system is being implemented statewide, according to Stubbs. Over the next four years, grant funding will be used to develop a digital badging and pathway system that will be able to interface with the K-12 digital badging and pathways system.

The initiative has also received a significant grant in order to provide skills to citizens returning from incarceration over the next two years. Notably, the Georgia Department of Corrections has also approved the development of a micro-credential pilot program.

Tennessee State University's Center of Excellence for Learning Sciences – ClearPath ECE

Introduction

As one of the oldest Historically Black Colleges and Universities in the nation, Tennessee State University has a storied history of significantly contributing to the educational journeys of generations of Black populations across the urban and rural south. An increasing population of Latina/Latino residents has contributed to the cultural and social context of the region. Amid the rural regions saturated with opportunities in factory and agricultural jobs (growing of tobacco, corn, and cotton), among the most common career paths is the field of education. While early childhood education (ECE) is a profession that requires consistent continuing education, some believe that those within the field are not viewed as professionals and are notably underpaid.

> "The hope is that COVID has taught us enough of a hard lesson in a very practical way: How important it is to have someone care for our children properly so that we can work full-time – and work in fields that take us away from home. It changed how we view childcare, as more than just an added benefit to working additional hours, but a necessity for large-scale economic improvement for people of all socioeconomic groups. Even CEOs had to deal with their five-year-olds at home as much as admin assistants."
>
> – Celeste Brown (Developer)
>   Associate Research Director, Center of Excellence for Learning Sciences; Co-Project Manager, ClearPath ECE

Spread throughout the expansive state of Tennessee, early childhood educators may have a range of educational and experiential qualifications as they pursue the noble work of caring for and teaching the youngest of citizens. However, challenges persist in the form of limited options for internet access and transportation. The ClearPath ECE initiative has been designed to help early childhood educators obtain credentials that reflect their past experience and recognize existing knowledge in a methodical way that can be shared with potential employers in an ever-expanding field with persisting limitations for growth and upward mobility. Given the prevalence of traditional experiences taking precedence over credentialing, some stakeholders maintained concerns about the acceptance of micro-credentials as an alternative pathway to traditional education, by local organizations and state entities, as well as concerns to motivate early childhood educators of the need to recognize the importance of furthering their education.

Micro-credentialing Initiative Description

> *"The Early Childhood educators we serve had many barriers to overcome during the pandemic. Primarily, they had challenges with setting aside time to engage in ClearPath ECE. They were just trying to figure out what's going to happen each day, 'Am I going to have a job tomorrow? Are they going to call me?' A lot of people didn't have personal leave. A lot of people were not going to get paid if they didn't work. Other educators worried about benefits, worried about their own childcare. When those childcare arrangements folded, they had the problem that a lot of their clients were having. So, it's been an extremely emotional time and an extremely scary time for early childhood educators. They've done amazing things to make sure that their program still existed and that they serve their families. But, I will tell you the extra micro-learning was on the bottom of their list."*
>
> *– Paige Holmes (Developer)*
> *Assistant Director, Tennessee Early Childhood Training Alliance (TECTA); Co-Project Manager, ClearPath ECE*

In an effort to specifically increase the preparedness and compensation of those in the field of early childhood education (ECE), The Center of Excellence for Learning Sciences (COELS) at TSU coordinated with Tennessee Early Childhood Training Alliance (TECTA) and it's Early Head Start Programs, launching the ClearPath ECE online learning community to promote college and career pathways in ECE through micro-credentialing. In support, the Tennessee Board of Regents awarded the COELS its Student Engagement Retention and Success grant to build an online community that educators could readily access; an effort to circumvent the lack of available college courses in rural areas. As a feature of the pilot, ClearPath ECE, along with TECTA, developed a state-wide program providing free training and academic tuition support to childcare providers. They base the competencies on the National Association of Colleges and Employers (NACE) requirements. The aim is to create a means by which ECE participants can increase technical and soft skills, allowing them to become better educators, earn higher pay, and garner elevated recognition, thereby leading to better quality of life.

Paige Holmes, Assistant Director of TECTA and Co-Project Director of ClearPath ECE, stated that a six month delay to accessing grant funding – compounded by COVID-19 cases on campus – affected their ability to generate a timely and robust communications campaign to reach potential participants, significantly impacting program outcomes. However, recruitment was focused on reaching ECE professionals broadly via social media channels such as Facebook and Instagram, as well as referrals from TECTA, COELS Early Head Start Programs, and other higher education institutions in Tennessee. The program conveyed that earners would benefit from micro-credentials at multiple levels, as college students or seasoned professionals, from sharpening their skills and adopting new competencies. While early childcare providers have expressed interest in the program, the burden of competing obligations during a global pandemic—employment, academic, and personal— left less room for participants to substantively engage with micro-credentials.

Administrators will continue to focus efforts on developing the micro-credentialing platform to more fully support competency-based learning for current and prospective students, emphasizing a renewed focus on adjusting timelines, building out micro-credentialing platforms, translating modules to into Spanish to increase accessibility, and establishing additional strategic partnerships.

Collaborating Organizations

ClearPath ECE is a partnership of Tennessee's leading education and workforce development organizations, including:

- Tennessee State University's Center of Excellence for Learning Sciences
- Tennessee Early Childhood Training Alliance (TECTA)
- TSU Early Head Start Child Care Partnership & TSU Tennessee CAREs Early Head Start programs
- Tennessee Department of Human Services

Understanding the Value of Micro-credentials for Early Childhood Education Providers in Tennessee

"I think that micro-credentials are a great way to allow people to have the opportunity to achieve things that maybe otherwise they couldn't. I go back to the whole concept of making it micro, making it smaller, condensing the information so that you experience success quicker versus having a string of courses and months before you can see any gratification that comes from being able to successfully complete it. I think that part of it is great and new. I know for me and traditional classroom settings, when you talk about a semester, that's a long time. But if I can meet small goals and feel accomplished, then that might give me what I need to go on and not quit, and see that it's attainable."

– Yolando Ingram (Learner), Genesis Family Child CareOwner/Operator

Program participants engaged in the program identified as Black/African-American and Hispanic or Latina/Latino women between ages 18–45 with previous experience in the field. For these groups, time was of the essence. The participants who completed micro-credentials in the initial pilot cohort were explicit in conveying the challenges they faced completing modules alongside professional and personal responsibilities during the ongoing pandemic. In a field that often requires a tremendous amount of energy and attention to care for and educate young children, there is noted hesitation and a lack of energy – as well as attention – toward unfamiliar programming. However, given that many micro-credentials take less time to complete than other forms of credentialing, the successful completion of an initial module can be motivation to continue. Tabitha Bass, an earner from the second cohort of pilot participants, echoed those sentiments.

"It is an opportunity to learn information for professionals in our field to brush up on things that we should know. Technology is here. Everybody needs to do their part to become better at what we do and how we do it, by taking notes. We need to not only read, but check out other information, so that we have a wealth of knowledge of other things – not just early childhood information. We need to continue to grow and learn. You've got to start with basics. Everybody has to start with the basics. This particular program helps people to not only understand in little increments and be rewarded in increments. With each module that you complete, you get a little certificate. And it might be little to someone, but the more they add up, the more you can do with them."

– Tabitha Bass (Learner), Teacher/Coordinator, Breakfast Club; Extended Care. Woodmont Christian Preschool

Having recently earned her bachelor's degree, she initially perceived no need to complete micro-credentials, especially given her taxing schedule and limited time outside of work. However, her motivation came in the form of a desire to verify the program as potentially beneficial to colleagues in the field. Completing multiple micro-credentials reinforced for participants that they were effective and were convenient; thus, generally beneficial for their colleagues. However, they remained confident that while micro-credentials may reinforce resume credentials, their previously earned credentials and years of experience would serve as most beneficial for career advancement. Such a sentiment may explain the difficulty when recruiting participants from a professional field that demands significant amounts of attention and energy.

What's Next?

Considering the concerted effort across the nation to increase rates of pay and economic mobility for a field of predominantly women belonging to marginalized groups, TSU's Center of Excellence remains committed. To further establish a sense of community building, the program intends to develop a platform for ECE providers and educators that will allow them to network, connect, and support one another based on their shared experiences.

Administrators believe that there is a need for more micro-credentials that recognize critical thinking, problem solving, career planning, communication, and digital literacy skills. To assist in accomplishing this goal, the center aims to involve university faculty, along with ECE educators in the development of additional micro-credentials. Additional micro-credentials are in the process of development focused on leadership skills, infant toddler care, and eight NACE competencies.

"In our past experience, the population determines. If we don't step up to meet the populations that we want to service where they are, we're going to totally lose them. If the ultimate goal is to increase the education, knowledge, and skill set of individuals, we're going to have to continue to find ways that are feasible and makes sense for the end-user. I think micro-credentialing is growing in a positive trajectory, and it's only going to continue and expand."

– Dr. Kimberly Smith, (Recognizer) Director, Center of Excellence for Learning Sciences, Tennessee State University

 In an effort to recognize the growing ethnic diversity of the region, the program is considering generating a substantive number of Spanish language modules for those unable to access the content in English. Most recently, the initiative has created and launched an orientation entirely in Spanish, an effort to accommodate the significant number of early childcare providers for whom Spanish is their first language.

Moving forward, Clearpath ECE also has plans to collaborate with non-profit organizations that will ensure the advancement of program and edtech data interoperability.

University of Maine System's - All Learning Counts — Maine

Introduction

The native home of Indigenous communities and the site of some of the first cross-Atlantic settlers, the state of Maine remains the destination of a diverse group of immigrant populations seeking to create a new, viable means of financial prosperity. Many of the rural regions of Maine, decreasing in residential numbers, remain largely White and economically challenged, as seasonal industries such as logging, fishing, and tourism remain the most consistent sources of employment.

A lack of reliable internet access in some regions hinders many residents from accessing online resources and engaging in learning opportunities, making it difficult to complete many programs. Commute times also pose a challenge, particularly in remote regions with rugged terrain. However, in multiple regions across the state, there are efforts to increase connectivity in order to increase a viable, sustained ecosystem of transferable knowledge, skills, and abilities gained outside of traditional higher education settings and job opportunities. In response to a lack of resources, which often compel residents to leave the state, the University of Maine System sought to increase access to fields of healthcare, technology and IT via micro-credentials, to increase skills that were both needed across the state and more easily transferable.

> *"I don't think companies are interested in how many years you have working, especially in technology. To help the company grow, you have to show your 'know-how', the skills you have, because the technology is changing every day. 10–15 years in one position? That doesn't make sense, because you are not developing your skills."*
>
> *– António Mabiala (Learner), Maine*

Micro-credentialing Initiative

"It's an accomplishment that goes beyond the walls here. It's not a certificate from a prison program. Those are great, but they don't always make sense outside of these walls. It's just lost in translation; so, I think having something that is a link to a larger world is huge. I think socially, I'd like to imagine that it matters not only to the individual, but also to our communities that recognize the credentials; that just because a person's body was held captive in a prison, in an institution, that does not mean that their mind stopped or that the learning was arrested, or that their desire to move forward didn't exist."

– Abbie Embry-Turner (Instructor)
Teacher, Southern Maine Women's Reentry Center

A coalition of public and private organizations with a mission to develop a micro-credential ecosystem, All Learning Counts – Maine intends to provide quality skills and credentials that meet the needs of employers across industries. Statewide micro-credentialing allows the University of Maine System and its partners to develop coordinated credentials and better connect with employers and remote rural communities. The University of Maine System and the Maine Community College System offer micro-credentials including Education Design Labs 21st Century Skills badges. Among the partnering organizations, the Southern Maine Women's Reentry Center (SMWRC) currently provides classes to approximately 22 incarcerated women, taught by facility instructors as well as faculty from Eastern Maine Community College.

According to administrators, communicating the value of micro-credentials has been vital to participant enrollment and partner support. Messaging to learners is concerned with informing them of the ways that these credentials can document skills and competencies. Conversely, messaging to potential employers is concerned with conveying the understanding of how micro-credentials can aid in hiring and retaining qualified workers.

The initiative pilot captured robust demographic data concerning the 35 earners across the state. Nine indicated that they reside in rural areas while 3 did not specify the type of area in which they reside. Approximately 56% of participants that indicated living in rural areas also indicated that they receive public assistance. Quantitative data revealed learner demographic data that revealed that approximately 23% of the pilot population indicated that they identify as an individual with a disability, 63% indicate that they are a person with low income, and 31% identify as an English language learner at the time of program entry. Approximately 43% of total participants spoke a primary language that was not English. The initiative also has been extended to 22 additional women in the SMWRC. Complete race and ethnicity data was not available.

"We would love to have IT companies in Maine put their visible stamp of approval on the micro-credentials because we are aware that it would strengthen its value."

– Dr. Claire Sullivan (Issuer)
Assistant Vice Chancellor for Innovation in Digital Badges and Micro-credentials, University of Maine System

Collaborating Organizations

All Learning Counts – Maine is a partnership of 11 leading education and workforce development organizations across the state, including:

- University of Maine System's campuses
  - Partner: The Wabanaki Center, University of Maine
  - Partner: The University of Maine at Augusta
- Maine Community College System's campus at Eastern Maine Community
- College
- Maine Department of Corrections
  - Vendor: Edovo
- Maine Department of Labor and the State Workforce Board
- Maine Department of Education Adult Education programs and local programs
  - United Technologies Center
- Educate Maine
- Maine State Library

Value of Micro-credentials in Maine

"It's a great opportunity for students to have something that, if they decide to continue on into post-secondary, that it's going to have some value for them there as well. And, hopefully, be a little aspirational for them as well, that if they understand when they earn that micro-credential that, 'Hey, this is worth nine college credits.' That they know that maybe before college seemed maybe out of reach for them. But with those nine credits, it's a good boost to kind of get them started to do something that they may have not thought they could do before."

*– Amy Poland (Developer)
Professional Development Coordinator, Maine Department of Education, Office of Adult Education*

What Value Do Micro-credentials Bring for Rural Learners Who Earn Them?

All members of All Learning Counts – Maine intend to engage in equitable practices to provide access and training residents of the state. As such, there is a particular focus on low-income residents, Indigenous populations, New Mainers (including immigrant and refugee populations), and incarcerated citizens. One of the prevailing ideas of the program is to provide new immigrant populations the opportunity to increase their English language skills while simultaneously adopting skills in their intended fields.

The University of Maine System has allowed for some micro-credentials to qualify as credits toward degree completion in various academic disciplines that can eventually count toward an associates or bachelor's degree. A value not always afforded by micro-credentialing programs, this is especially appealing to some individuals who must sometimes temporarily suspend their educational pursuits for any number of reasons.

Earners of micro-credentials were explicit that they gravitated toward the program given the flexibility of the pace of completion. All program participants stated that they were able to complete modules when their schedules permitted. Older earners, including a participant re-entering the workforce in a different field, remarked about the ability to start, stop, and resume the completion of content.

> *"I did a lot of work to earn the credentials... and I worked on myself throughout the Life Ready part of the credentials. So, I learned a lot about myself that I didn't know before. And I do think that if it is offered to people, I think they should jump on that."*
>
> *– Candida (Learner)*
> *Southern Maine Women's Reentry Center*

Table 4. University of Maine System—All Learning Counts Demographic Data

Learner Demographics: University of Maine - All Learning Counts
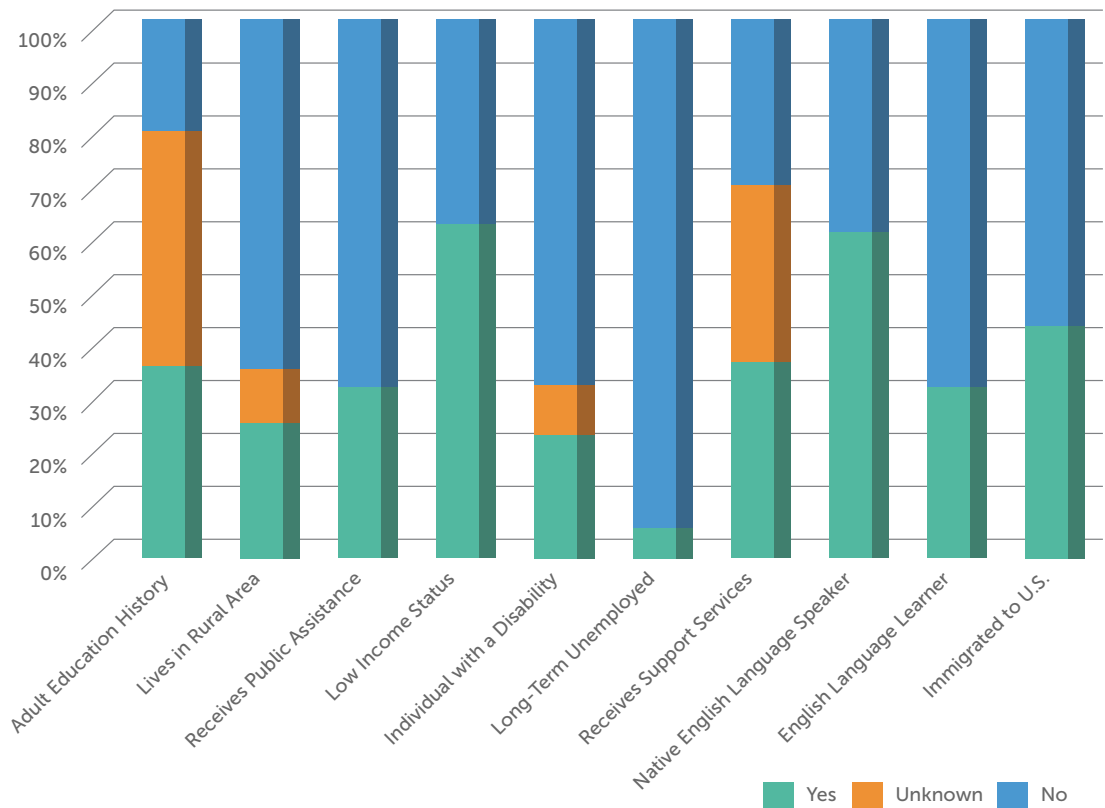
Site locations: Ellsworth Adult Education; Lewiston Adult Education; Marshwood Adult and Community Education; Portland Adult Education; RSU 25 Adult and Community Education
NOTE: SMWRC demographics not included

Challenges

Remaining as the most pressing concern for administrators is the need to amplify communications about the potential value of micro-credentials to both prospective learners and employers. Increasing employer recognition of micro-credentials is also a priority, beckoning the need for more communication with industry leaders throughout the state. Administrators also recognize the need to supplement messaging to residents in a manner that will successfully reach them, using language that they can readily interpret. While there is a general understanding of the need to spread awareness, learners in the Southern Maine Women's Reentry Center (SMWRC) expressed a desire for reinforced explanations of the logistics of the program. Nonetheless, they conveyed positive experience in earning multiple badges, despite some uncertainty of how they could be applied.

What's Next?

As previously mentioned, the programs intend to increase vital messaging to multiple stakeholders in their efforts to raise awareness on the potential footprint of micro-credentialing. Important to the administrators is the objective to create micro-credentials centering the history of Indigenous peoples in the region. With this population in mind – as well as other marginalized residents – the University of Maine System is also seeking to utilize micro-credentials to create a sense of belonging.

> *"How do you really get learners ready for these experiences? It is not as simple as offering a micro-credential. It's frequently as complicated as, what does the whole person need to be ready to pursue that micro-credential?"*
>
> – *Rosa Redonnett (Recognizer) Associate Chancellor for Student Success and Credential Attainment, University of Maine System*

Moving forward, program administrators seek to potentially facilitate the inclusion of adult education programs as central partners, providing space for such programs to align efforts with the university and community college systems; a welcomed shift given the perception that micro-credentials serve to validate the work that adult education providers have long been doing. The initiative also seeks to develop specific micro-credentials that facilitate a sense of belonging. Additionally, Maine intends to create micro-credentials that are specific to the history of indigenous populations in the region.

Conclusion

The goal of this study was to begin to understand the value and use of micro-credentials in promoting social mobility for learners in rural postsecondary communities. We aimed to focus our attention on the impact of earning micro-credentials for rural learners experiencing poverty, particularly among communities of Black, Indigenous, and People of Color. Our research revealed that all of the key stakeholder groups— including developers, earners, assessors, issuers, and recognizers—perceived micro-credentials as a positive tool that provide added value to the lives of those who earn them. While the ongoing struggle to combat COVID-19 limited communications with prospective earners, opportunities for organizational partnerships, as well as collaboration with researchers – thereby hindering progress across educational sectors, the efforts to grow successful micro-credentialing programs has persisted.

Overall, micro-credential earners interviewed for this study perceived their experiences favorably and believed that their efforts to earn such credentials would result in economic mobility through higher education and incomes. Earners indicated that micro-credentials allowed for more timely feedback and that each credential motivated earners to continue their progression. While stakeholders remain optimistic about the value of micro-credentials, three of four programs have recently completed the first cohorts of their piloting and many earners have not determined the extent to which earning micro-credentials may or may not impact their long term employment trajectories.

A Call to Collect Quantitative Data

Each initiative recognized the need to more uniformly collect and monitor data related to student demographics, outcomes, and wages. To this end, it is essential to ensure that data systems across organizations are interoperable and that there is funding provided to support personnel that can be responsible for collecting, reviewing, and analyzing this information for a multitude of purposes. Increasing data interoperability would facilitate the uniform tracking and sharing of acquired skills and career advancement among participants.

Beginning an initiative is a significant undertaking, requiring time and attention to details that may unexpectedly surface with time. In efforts to track and assess the impact of initiatives designed to increase learner outcomes, it is important to implement measures that allow for accurate assessment. This is most often accomplished by collecting quantitative data. Robust quantitative measures include the collection of student demographic information, including fixed characteristics (i.e., ethnicity, gender, primary language) as well as non-fixed data (e.g., income, education, and increased access to employer offered benefits). The collection of the aforementioned non-fixed learner data at the point at which participants join a program will more readily allow a program to determine the impact that it may be having on the lives of credential earners. While some pieces of information may be sensitive, they are key to determining if and when social and economic mobility have been achieved. In the Appendix of this report, several examples are offered as methods to collect data which can be subsequently analyzed. To increase the likelihood of interoperability, it is important to attempt to collect such data across all participants of each of the partnering organizations of an initiative that track student outcomes.

Increasing Communications

Program administrators recognized a need to increase methods of communications to target audiences – prospective earners and potential employers– who stand to gain the most from competency-based learning and assessment. To address this concern, the programs have indicated intentions to initiate plans to increase communications about their work, potential opportunities micro-credentials may present, and ways for prospective earners to get involved.

For potential micro-credential earners, competing priorities and limitations of time may continue to impact their ability to engage in such initiatives. Additionally, the three university-based programs that aim to provide micro-credentials to general populations appear to have the potential to benefit from a shift in messaging that includes details about the benefits that differentiate micro-credentials from other types of existing credentials. Specifically, earners expressed a desire for certainty regarding the transferability of micro-credentials toward degree earning programs.

Micro-credentials and other alternative credentials offer earners the opportunity to document skills in their efforts to increase their socioeconomic circumstances via educational and vocational opportunities. Micro-credentialing initiatives attempt to stand out among the sea of credentials by incorporating embedded digital information that can be tracked by prospective employers, demonstrating a marker of validity and transparency.

This landscape study provides a snapshot of micro-credential use in various sectors across four rural postsecondary communities during the ongoing COVID-19 pandemic. While learners enrolled in these and other programs are most certainly gaining in-demand skills and competencies through micro-credentials, it is too soon to determine how these short-term learning opportunities will result in long-term impact on individual and collective social mobility. Our preliminary research indicates that micro-credentials can—and in some cases, do—lead to job promotions, higher wages, and an increase in self-confidence. To date, the value of the digital micro-credential is still intrinsically connected to the quality of education and training available, the depth of cross-sector partnerships in a region, and equitable access to economic opportunities for learners in rural communities.

Further research is needed to better understand the long-term role of various types of credentialing for earners, particularly for Black, Latina/Latino, Indigenous and other marginalized populations. Such efforts may be observed by focusing on efforts across the rural south, specifically looking at the efforts of Historically Black Colleges and Universities (HBCUs), Hispanic Service Institutions (HSIs), as well as Tribal Colleges and Universities (TCUs).

Acknowledgments

The Digital Promise Adult Learning Team expresses utmost respect and gratitude for the individuals who participated in conversations, interviews, and focus groups, including learners, researchers, program administrators, educators, training providers, employers, and many more key stakeholders in the micro-credentialing ecosystem. We greatly appreciate our lead partner organizations, including the Kentucky Valley Education Cooperative, Savannah Technical College/Technical College System of Georgia, Tennessee State University's Center of Excellence for Learning Sciences, and the University of Maine System's All Learning Counts–Maine for their participation in this research and ongoing partnership. We also appreciate conversations with leaders from Codefi Foundation on Rural Innovation, Indiana Wesleyan University, and many more institutions exploring the use of micro-credentials in their programs.

We are grateful for contributions made by Digital Promise researchers from the Micro-credentials team, especially Carol Lopez. We are also grateful for the contributions made by researchers from the Learning Science Research team, including Pati Ruiz. A special thank you to the Adult Learning Project Manager, Antionette Miller. We also thank Crystal Williams and members of the Digital Promise Communications and Operations team for supporting this work.

Finally, this work would not have been made possible without the generous grant support and thought partnership of the Ascendium Education Group. Ascendium Education Group is a 501(c) (3) nonprofit organization committed to helping people reach the education and career goals that matter to them. Ascendium invests in initiatives designed to increase the number of students from low-income backgrounds who complete postsecondary degrees, certificates and workforce training programs, with an emphasis on first-generation students, incarcerated adults, rural community members, students of color and veterans. Ascendium's work identifies, validates and expands best practices to promote large-scale change at the institutional, system and state levels, with the intention of elevating opportunity for all. For more information, visit https://www.ascendiumphilanthropy.org.

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Appendices

Appendix A

Table 5. Micro-credential Stakeholder Groups

Key Term	Description
Developer	The organization(s) or individuals that identify and establish the expected knowledge and skills to be recognized through the micro-credential (often the same entity as the issuer)
Earner	The individual who submits evidence demonstrating their learning competency in order to earn a micro-credential
Assessor	The individual(s) that review evidence submitted by earners and apply criteria to assess and determine each earner's proficiency
Issuer	The organization(s) or institution(s) that formally award the micro-credential to earners who have successfully met the proficiency criteria (often the same entity as the developer)
Recognizer	The organization(s) or institution(s) that recognize and give currency or value t the micro-credentials and allow them to be used by earners for various purposes

Adapted from the CCSSO's "Design, Assessment, and Implementation Principles for Educator Micro-credentials" 2020

Table 6. Micro-credentials Offered by University of Maine

Student Administrative Data - Maine Case Study					
Name of the Micro-credential	Competency Assessed	Brief Description	Corresponding to a degree, certificate, or non-degree pathway? (Y/N)	If "Yes", which?	Number of students currently enrolled in the micro-credentialing program
Computer Support Specialist	Digital literacy, academic standards and workplace	This micro-credential recognizes and validates the learner's successful completion of the University of Maine System (UMS) Computer Support Specialist pathway (Levels 1, 2, and 3). Learners completed training and applied their learning within a computer support work-based setting or equivalent.	Y	AS/BS Computer Information Systems; BS Information Technology	25
Opportunity Ready	Success Skills	Earners of the EMCC Opportunity-Ready badge have the skills necessary to identify and pursue meaningful opportunities in their lives. They have demonstrated exploration of life-readiness, education-readiness, and work-readiness skills that support their future success in a variety of settings. They have demonstrated an ability to use reflection, effective planning, and goal setting to link their personal strengths and interests to educational and career pathways.	Y	College Experience 100 Level course	11
WorkReady	Workplace Skills	Earners of the EMCC Work-Ready badge have the basic skills needed to be successful in searching and applying for a job in their field of interest. Earners can to describe the importance of workplace etiquette, the value of professional networking and informational interviewing, and have demonstrated foundational understanding of 21st Century Skills. They have applied their knowledge of effective planning and reflection by developing a Work-Ready Personalized Action Plan.	N		25
IC3	IC3 Digital Literacy Global Standard 5	Computing Fundamentals, Living Online, and Key Applications.	Y	AS/BS Computer Information Systems; BS Information Technology	25
COMPTIA A+	Trouble-shooting, problem-solving	CompTIA Security+ is the first security certification a candidate should earn. It establishes the core knowledge required of any cybersecurity role and provides a springboard to intermediate-level cybersecurity jobs.	Y	AS/BS Computer Information Systems; BS Information Technology	25

Data collected by University of Maine Systems detailing micro-credential type, description, associated degrees, and enrollment.

Appendix B

Digital Promise Student-Level Data Template

Digital Promise recommends that education and training institutions identify and collect available quantitative data related to micro-credential program implementation and evaluation.

Micro-credential Program Information

- A brief program description of the micro-credentialing initiative that will be featured in the Digital Promise research project

- The name, competency, and description of each micro-credential available to students enrolled in the program, indicating whether this corresponds to a degree, certificate, or non-degree pathway at your institution

Student-level Characteristics

- The number of students enrolled in each micro-credentialing program, indicating whether this is related to a degree, certificate, or non-degree pathway at your institution

- The demographic information of the institution system-wide

- The demographic information of students enrolled in the micro-credentialing program, including:
  - Year of birth or age
  - Gender
  - Race/Ethnicity
  - Pell eligibility (or other indication of socioeconomic status, such as scholarship recipient)
  - First generation college goer status (if applicable)
  - Date of enrollment at this institution
  - Enrollment status for this term (full-time, part-time, online)

Student Outcomes Data

- The name and number of micro-credentials submitted by student, including number of attempts

- The name and number of micro-credentials earned by student

- Rate of micro-credential stack or course completion across all students enrolled in the micro-credentialing program

- Rate of micro-credential stack or course completion across students enrolled in the micro-credentialing program who are impacted by poverty, i.e. Pell eligibility or other indication

- Rate of micro-credential stack or course completion across students enrolled in the micro-credentialing program who identify as BIPOC

- Certificates earned or degree pathway pursued related to the micro-credential

- Student reported workforce entry and/or promotions data in the associated career pathway, including their demographic information (when available)
  - *Examples:* 30 students out of 300 (10%) were able to get a job in software development upon completion of their training

Table 7. Digital Promise Codebook for Student-Level Data Collection

Student-Level Administrative Data	Description:
Unique Student ID*	Unique student ID assigned for Digital Promise research; the Higher Education Institution (HEI) will maintain the crosswalk between this user ID and their institutional student IDs
Institution Name*	Consistent spelling of Institution name
Year of Birth (YYYY)	Student's year of birth; used to identify those under 18 and those 25 or older
Gender*	Female/ Male/ Other
Ethnicity/Race*	Federal statistical categories
Primary Language*	The language indicated by student as the preferred language. If not indicated, state student's 1st language, if known.
Socioeconomic Status (Pell Eligible: Yes/ No)*	Indicate if and how institution determines SES. For example, in higher education settings, is student eligible to receive a federal Pell grant?
Current Enrollment Status*	Is this student enrolled full-time, part-time, short-term training, self-paced modules, etc.)
First Generation College Student (if applicable) Y/N	Is this student among the first generation to pursue higher education in their family
Date of First Enrollment at this Institution (MM/DD/YY)	Date that student first enrolled in any course within your institution
Micro-credential Completion Rate	
Number of MCs Attempted (Including Current Term)	Including the current enrollment, how many MCs has this student attempted?
Number of MCs Completed	In total, how many MCs has this student attempted?
Micro-credential #1	
Current MC Name*	Current (or most recent) MC title
Has student attempted MC previously* (Y/N)	Has this student attempted this MC previously?
Micro-credential #2	
Current MC Name*	Current (or most recent) MC title
Has student attempted MC previously* (Y/N)	Has this student attempted this MC previously?
Micro-credential #3	
Current MC Name*	Current (or most recent) MC title
Has student attempted MC previously* (Y/N)	Has this student attempted this MC previously?
Suggested Outcome Data	
Entered a non-degree program	Earner has has enrolled in a program that does not award a degree. Indicate if micro-credentials transferred as credits.
Entered degree program (AS/BS/MS)	Earner has enrolled in a program that awards a degree (i.e., Associates, Bachelors, Masters)
Number of Wage Increases	Number of instances wages increased as a result of earned micro-credentials.
Number of Promotions	Number of promotions within an organization or company
Number of Increased Employer Benefits	Number of increased employer benefits (e.g., healthcare insurance)
New Employment Obtained	Obtained employment at a new organization or company