




Micro-credentials, spurred by Digital Promise's ecosystem, can recognize and spread teacher expertise in powerful new ways that benefit all students. They are instrumental to CTQ's efforts to cultivate, incubate, and scale teacher leadership for an excellent and equitable public education system."


Barnett Berry, CEO & Partner
Center for Teaching Quality



Educators learn in a variety of settings and micro-credentials offer a new way to validate the learning that educators accomplish throughout their careers. Digital Promise is dedicated to continuing to innovate with partners like CTQ and shine a light on excellence in classrooms across the country."


Karen Cator, President & CEO
Digital Promise

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Introduction

Micro-credentials offer a way for American teachers to more fully own and advance their profession.

Teaching is future-focused work. It is about preparing students to secure their own well-being—and our nation’s—in a dynamic global economy. Readyng the next generation for college and careers is no simple charge. Teachers must help all students to master core content knowledge *and* become adept critical thinkers, collaborators, and communicators. To do so effectively, teachers must devote significant time, energy, and effort to their own professional growth throughout their careers.

American schools invest substantially in teachers’ professional development annually, but mostly without significant impact. Considerable evidence suggests that formal professional development often misses the mark. The good news is that teachers, now more than ever, are also learning in a variety of informal ways. Systems just don’t yet have reliable ways of tracking or making the most of that growth.

A potential solution for strengthening professional development is at hand: micro-credentials for educators.

The emerging micro-credentialing approach—driven by an agile online system—presents teachers with opportunities to document their formal and informal learning. Individually and in teams, teachers can identify and develop important skills, submit evidence of their competence, and earn digital badges verifying their expertise. School systems can tap the resulting data to inform decision-making about investments in professional learning to most effectively support teaching practice. And in the long run, micro-credentials offer a way for American teachers to more fully own and advance their profession.

This paper explores the potential of micro-credentialing to support teacher and leader development. We will begin with a quick look at the current state of professional development for American teachers, including recent trends that have set the stage for this new approach. Next, we’ll define micro-credentialing and outline the specific benefits of micro-credentials in the current reform context. Finally, we’ll survey the current policy landscape and identify next steps for moving districts and states toward micro-credentialing. We have more questions than answers, but we are optimistic about the promise micro-credentials offer to drive teacher learning and leadership.

The emerging micro-credentialing approach presents teachers with opportunities to document their formal *and* informal learning.

**Teaching
is future-
focused
work.**

CTQ convenes teams of K-12 teachers from across the country to develop micro-credentials



Introducing micro-credentials for educators

Digital Promise and its partners have developed more than 120 micro-credentials that recognize a range of professional competencies for educators. A few examples:



Effective leadership of virtual communities of practice (Center for Teaching Quality)



Skills to support global graduates (Mobile Technology Learning Center, University of San Diego)



Teaching practices for supporting Deeper Learning (Digital Promise)



Data literacy and checking for understanding (Relay Graduate School of Education)



Supporting students with learning differences and instructional competencies for learning fractions (Friday Institute)

Professional learning in American schools

*Individual teachers are already learning informally
and growing as professionals every day.*

Professional learning is a core expectation for teachers in America today. Most states require a number of in-service “credits” for teachers to renew their teaching licenses (e.g., 120 hours every five years). By way of external mandates and funding decisions made far from classrooms, the contours of professional development are often defined by administrators and outside vendors. A recent study funded by the Bill & Melinda Gates Foundation points out that America’s public education system spends \$18 billion annually on professional development, but very few teachers (29 percent) are highly satisfied with their formal learning opportunities. Teachers lament that their current professional development is insufficient to “prepare (them) for the changing nature of their jobs.”¹ Even professional learning communities—a mode with considerable potential for peer-to-peer learning—earn low ratings because of inadequate implementation.

Clearly there is room for improvement of the formal structures for professional development.

The troubling state of teachers' professional development in the United States

- The Center for Public Education and National School Boards Association recently released a [hard-hitting report](#) revealing that American teachers receive limited support for their efforts to engage in more effective instructional shifts and lack sufficient time to learn from one another.²
- Many teachers report that the trajectory of their formal professional learning is dictated by others: One in five teachers “never have a say” in their trainings—and only 30 percent are able to choose a majority of trainings they attend.³
- A 2013 survey of 100,000 classroom practitioners from 34 countries found that 50 percent of American teachers have *never* observed their colleagues’ teaching, and only 10 percent of U.S. teachers reported that they have assigned mentors who have given them feedback.⁴
- More than 112,000 teachers have earned National Board Certification, which has been recognized as a mark of accomplished teaching.⁵ But since the process’s inception more than 20 years ago, few states and districts have routinely developed, recognized, and utilized these classroom experts as leaders.

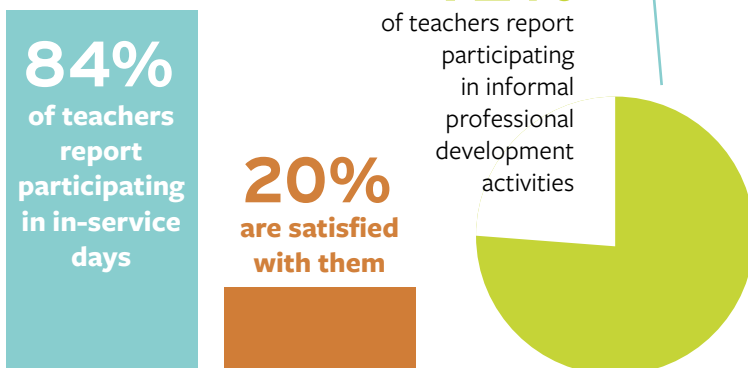
The good news?

Individual teachers are already learning *informally* and growing as professionals every day across this country. This informal learning is occurring in a coffee shop where two teachers are planning together. It's taking place as a teacher independently redesigns assessments for her classroom after reflecting on the last semester's results. And it's happening in online exchanges where teachers share resources and debate practices in expanding virtual communities.

Common sense tells us these activities benefit students—and, anecdotally, teachers report the same. A recent Digital Promise survey revealed that while teachers are not satisfied with their formal professional development opportunities, nearly three in four classroom practitioners are pursuing *informal* learning that satisfies their quest to improve.⁶

But in most school systems, these interactions are not considered “professional development” because educators can't participate for credit toward recertification or other goals. These activities aren't tracked, evaluated, or recognized. As a result, system leaders know little about who has been learning what—or how much of an impact specific activities have on student learning. They often struggle to identify teachers with particular areas of expertise, and they lack the evaluative data necessary to understand the impact of informal professional learning.

Enter micro-credentials.



Emerging technologies and informal professional growth

Significant numbers of teachers are using online resources and communities to improve their practice:

- High-quality content and virtual coaching on sites such as the [Teaching Channel](#) and [Discovery Education](#), as well as professional associations like [National Science Teachers Association](#) and the [American Association of School Librarians](#);
- Massive Open Online Courses (MOOCs) like those offered through [Coursera](#), [edX](#), [the Friday Institute](#) at North Carolina State University, and the [Deeper Learning Network](#);
- Virtual communities like the [CTQ Collaboratory](#), where educators can learn about policy and practice from one another—and go public with their ideas;
- Social media interactions that connect teachers synchronously (e.g., webinars, Google hangouts, Twitter #edchats) or help them organize informal face-to-face gatherings focused on learning and collaboration (e.g., Meetups, Edcamps, and unconferences); and
- Online platforms that invite teachers to curate and share lessons, sometimes expanding the value of products ([Bloomboard](#), Scholastic's [Read180](#), [LearnZillion](#), and [Share My Lesson](#), just to name a few).

Most teachers participate in informal professional development activities, and informal activities generate more satisfaction.

Digital Promise and Grunwald Associates (2015)

Defining micro-credentials

Competency-based. Personalized. On-demand. Shareable.

Four key characteristics distinguish the micro-credential approach from traditional professional development systems:

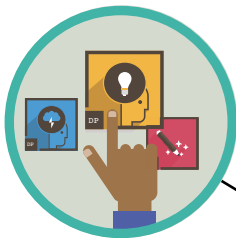
Competency-based. Micro-credentials focus on evidence of educators' actual skills and abilities, not the amount of "seat time" they have logged in their learning. They require educators to demonstrate their competence in discrete skills in their practice—either inside or outside the classroom.

Personalized. Teachers select micro-credentials to pursue—based on their own needs, their students' challenges and strengths, school goals, district priorities, or instructional shifts. And they can identify the specific activities that will support them in developing each competency—including, but not limited to, traditional professional learning activities.

On-demand. Micro-credentials are responsive to teachers' schedules. Educators can opt to explore new competencies or receive recognition for existing ones on their own time, using an agile online system to identify competencies, submit evidence, and earn micro-credentials.

Shareable. Educators can share their micro-credentials across social media platforms, via email, and on blogs and résumés. As a result, micro-credentials are portable currency for professional learning that educators can take with them no matter where they go.

Here's how it works:



1. Teachers identify the micro-credential they want to earn based on their needs and interests.

Each micro-credential provides details about what the teacher should know and be able to do, recommends resources to support the development of the skill, and specifies appropriate evidence an educator must submit to demonstrate his or her competence in order to earn the micro-credential.

2. Teachers pursue their learning.

Educators pursue development of the stated competency until they are ready to submit evidence for assessment. Learning can take place at a time and location chosen by the educator.





3. Teachers gather and submit evidence of their competence.

Required evidence might include a portfolio, video, student work, classroom observations, teacher and student reflection, and/or other documentation of their learning “in action.”

4. Trained assessors evaluate the evidence educators submit.

After the reviewer completes the assessment, the issuing organization reviews that assessment and determines whether the educator should be awarded the micro-credential.



5. Teachers earn the micro-credential and are awarded a digital badge.

Educators can display their earned micro-credentials on websites, résumés, and online profiles, and share them directly with colleagues and administrators.

Learn more about the micro-credential process

www.digitalpromise.org/initiatives/educator-micro-credentials

Over the past two years, Digital Promise has been building an ecosystem for advancing the design, development, and implementation of micro-credentials. This includes more than 20 partners with content expertise who have developed micro-credentials to address a variety of educator skills and competencies. As of January 2016, more than 120 micro-credentials are available through an online platform that facilitates selection, submission, assessment, and awarding of micro-credentials. Additionally, Digital Promise, the Center for Teaching Quality, and others are working with states, schools, and districts to provide formal recognition for teachers who earn micro-credentials.

To ensure quality and rigor, Digital Promise has developed a framework that ensures micro-credentials are research-backed and evidence-based. This framework includes the following components:

- definition of the specific competency;
- key method to achieve that competency;
- research and resources to support the key method and competency;
- description of the evidence and artifacts that must be submitted to demonstrate competency; and
- rubric and scoring guide for how that evidence will be assessed.

Micro-credentials and the transformation of teaching and learning

Adopting micro-credentials will help drive the transformation of teaching and learning in substantial ways:

- Teachers (and administrators) will have access to improved opportunities for professional growth, driving the continuous improvement of their practice;
- System leaders will be able to optimize investments in professional learning, identifying educators with the right expertise to lead effective innovations; and
- The teaching profession will be more fully “owned” by its practitioners, who will have greater opportunities to showcase their practice and communicate with both policymakers and the public.

Improving professional development

Improving professional development by integrating informal modes

Professional development activities currently considered to be “informal” tend to earn higher marks from practitioners. Micro-credentials support, document, assess, and recognize teachers’ professional learning regardless of where, when, or how it happens. This gives individual teachers greater agency. As one teacher who recently piloted a micro-credential put it, “[Most current] professional development falls through because it doesn’t treat the adult like an adult—specifically, we need to entrust the responsibility of PD to adults. . . . Micro-credentials really give every person that challenge. . . . I think it’s a really beautiful thing when you let someone ask themselves, ‘What do I really want to get better at?’”

Improving professional development by supporting personalized learning

With their highly granular focus, micro-credentials offer a format and opportunities for classroom experts to document a wide range of skills and accomplishments. And they allow for substantial customization of learning and leadership to fit a given teacher’s (or a cohort’s) experience, level of skill and knowledge, classroom assignment, current students’ needs, school context, professional interests, and personal learning preferences. Learning activities can be relevant, timely, and of high quality.



They're always telling us, 'Differentiate for the students! Differentiate for the students!' But when it comes to our differentiation as a teacher, there is very little. . . . There are things that I want to try out in my classroom [in my 10th year of teaching]. . . and I am having to experience the same professional development as a first-year teacher."

- ELA teacher (Phoenix, AZ)

Improving professional development by encouraging focused and productive collaboration

Scholars have surfaced powerful evidence that collaborative school cultures and peer-to-peer learning can help teachers improve. Micro-credentials offer teaching colleagues a “common currency” for articulating and documenting specific knowledge and skills as they learn together and work alongside one another. For example, a team of teachers might choose to pursue a micro-credential simultaneously, working together to improve the quality of formative assessments in math or building a community of teaching practice in which feedback is helpful and actionable.

Research findings suggest that offering practitioners opportunities to drive and organize their own professional growth can increase pedagogical credibility among their peers. As a result, micro-credentials can facilitate learning among trusted colleagues, increasing the likelihood that they will influence one another’s practice.

Of course, implementing micro-credentials will not guarantee that teachers have the time they need to collaborate and learn with one another. However, by defining specific skills and ways to document teachers’ competence in them, micro-credentials help systems justify the need to secure more time for high-quality peer-to-peer learning. They also encourage systems to better use the time and financial resources currently allocated to professional growth.

Improving professional development by quickening the spread of expert practices

Too often, districts, schools, and individual teachers find themselves “reinventing the wheel” to meet students’ learning needs. Micro-credentials create new opportunities to leverage the collective wisdom, experience, and pedagogical acumen of accomplished teachers. Such an approach will make it easier for teachers to exchange effective lessons, assessment tools, ideas, resources, and experiences to support their colleagues’ professional growth beyond the borders of their schools and districts.

When what works well can spread quickly (and be documented and assessed), students benefit—especially those in under-resourced schools and districts. As one teacher told us, “What I really liked about micro-credentials is that it gave me access to the same things that other teaching professionals are experiencing though it is not yet found in my school.”

Optimizing system investments in professional learning

Optimizing system investments in professional learning by informing decisions about demand for and effectiveness of specific opportunities

Micro-credentials could yield valuable information about educators’ interests and needs that could guide teachers’ and leaders’ decisions about effective formal and informal learning activities. Meanwhile, the evidence submitted for individual micro-credentials can indicate whether specific learning activities result in meaningful shifts in teacher practice. Over time, these data could identify high-impact learning activities—as well as those with limited benefit—informing professional development spending decisions and ensuring that district and school resources are used wisely.

Optimizing system investments in professional learning by enabling leaders to identify teachers with specific kinds of expertise

Micro-credentials make professional learning accomplishments more explicit and therefore actionable for systems. When teachers demonstrate and are recognized for what they have learned, systems can access reliable data about faculty members’ strengths, knowledge, and skills. This means systems can strategically connect teachers with leadership opportunities that use their individual expertise to meet student and school needs. For example, micro-credentials might identify educators with the ability and interest to serve as coaches, mentors, or peer reviewers as well as to lead curriculum and assessment reforms, spread innovative practices for working with specific student populations, or serve as community liaisons.

Micro-credential data could also help both teachers and system leaders identify gaps in expertise across the local workforce, revealing competencies that are particularly desirable within a school system.

Advancing teaching as a profession

Advancing teaching as a profession by increasing teachers' collective ownership of their profession

The status of the teaching profession has been undermined by school structures and culture that isolate teachers from one another—as well as by the prevalent outsourcing of professional development to external consultants. The current approach to professional learning sends the message that practicing teachers are not “experts.” Giving teachers more agency in their learning—and shining a spotlight on individual expertise—are significant shifts for the profession.



I think I am really good at project-based learning. That's a strength of mine. I would like something official saying, yes, I have an outside stamp of approval: 'She is really good at this.' Bam! And that sets me apart."

- A teacher who piloted the Giving Clear Directions micro-credential

Similarly, micro-credentials allow educators to build a portfolio of everything they know and are able to do, effectively collecting currency to support their professional identities. These portfolios—collections of digital badges with associated evidence—can further bolster the idea that educators are professionals who have spent their careers developing skills in their craft.

Advancing teaching as a profession by creating new opportunities for leadership and recognition

Teaching is a relatively flat profession in the United States. Because it is difficult to identify and reward classroom teachers as leaders, professional advancement for teachers often requires leaving the classroom for administrative roles. Career ladders and teacher leadership reforms have tended to focus on narrow formal roles that administrators typically fill using an “anoint and appoint” approach that reaches a small number of classroom experts.

A new kind of professional growth system could itself create new leadership opportunities for teachers. Specifically, teachers could design and lead activities that help their colleagues earn micro-credentials and serve on panels of peers who score submissions against a validated rubric.

But more broadly, micro-credentials offer educators opportunities to stand out among their peers in specific ways that teachers, systems, and community members value.

In this way, micro-credentialing sets the stage for incentives that encourage and reward teachers who develop and demonstrate particular kinds of expertise to meet student and system needs.

Advancing teaching as a profession by showing what 21st-century teaching, learning, and leading looks like

Education sociologists like Seymour Sarason and Dan Lortie have long lamented that, while the public wants better teaching and learning, they rarely want those learning experiences to look different from their own K-12 schooling. Because micro-credentials require documentation of an educator's competence, this approach has the potential to yield powerful evidence for promoting understanding of what great teaching actually looks like.

By “showing their work” through artifacts, reflections, and resources, teachers can collectively document—and make public—the impact of new kinds of investments in their learning. Similarly, system leaders can use this evidence to build greater demand for the educational investments that matter for students.

Why now?

Four developments that set the stage for micro-credentials

The micro-credential connection

1. Competency-based learning for students

Recognizing learning in terms of “seat time” just won’t cut it at a time when many more students have to accomplish college- and career-ready standards. Many American schools are moving toward a competency-based approach, adopting performance assessments that require students to demonstrate their competence by creating and defending portfolios. This is a more efficient, productive, and personalized strategy. New Hampshire is leading the way on this front among states.

Teachers, too, should show what they know and can do rather than accumulating seat time. Micro-credentials support this shift. An added benefit? Experiencing competency-based learning themselves will help teachers facilitate it for their students.

2. The rise of digital badging

Digital badges (supported by HASTAC, the MacArthur Foundation, and the Mozilla Foundation in 2011) allow individuals to receive recognition for formal and informal learning experiences. Each badge, awarded by an “issuer,” contains data about the organization or individual that granted it, the individual that earned it, and how that individual earned it. More and more badges are performance- and evidence-based. Professional learning badges for teachers are emerging in isolated programs.

Micro-credentials harness the technology behind digital badges to create a system of professional learning currency for educators that is portable and shareable.

3. Research base for a new approach to professional learning

Recent research suggests that the most valuable professional learning experiences may be led by accomplished teachers themselves. Key findings: 1) Collaborative school cultures help teachers improve, 2) Top-performing nations invest in ways for teachers to learn from one another, and 3) Teachers are most likely to be influenced by colleagues from similar contexts and in whom they trust.

Micro-credentials allow schools to apply this research, supporting teachers as they document the ways they learn from one another and implement that learning.

4. A new age of accountability

Passage of the federal Every Student Succeeds Act (ESSA) testifies to a growing recognition that accountability should include multiple measures of competence and performance, with progress supported by appropriate resources.

Micro-credentials will allow teachers to assemble a wide range of evidence of what they accomplish, perhaps contributing to a more authentic accountability system.

Establishing the policies and practices to fuel micro-credentials

The policy landscape is ripe for a new brand of teacher-led learning.

Educators are eager to use micro-credentials to lead their own learning. Digital Promise’s nationally representative survey of teachers found that, after they are introduced to the idea, about 31 percent report they are extremely or very likely to try micro-credentials when they become available, and another 34 percent are “somewhat interested.”

And conversations with state and district leaders suggest that the policy landscape is ripe for a new brand of teacher-led learning.* Eight states now offer a teacher leader certificate endorsement, signaling interest in developing teachers as individual and collective drivers of improvement in schools.⁷ And in many states, professional learning policies for teachers already integrate seat-time and competency-based learning.

Many leaders report that introducing micro-credentials as a formal part of state professional development structures will require creative implementation of current policy, rather than necessitate legislative change.

In Illinois, for example, State Superintendent Tony Smith cited [Illinois Public Act 98-610](#) as an important pivot away from the tendency to manage teachers’ choices and instead to focus on the quality of professional learning opportunities.⁸ One of the most significant changes resulting from PA 98-610 is the

allowance for teachers and administrators in the state to pursue different types of professional development that can include micro-credentials. This shift has made it possible for Illinois teachers to explore micro-credentials for formal recognition.

Similar developments are at hand in Florida, where [the state’s “guide” for teacher relicensing](#) addresses the importance of professional development plans. The state priorities also include several areas in which micro-credentials could become a mechanism for collecting and assessing evidence of educator growth on specific competencies.



I don’t know of a state that has a high-quality teacher recertification system. Some do not even do much to approve vendors. Most state education agencies want to move away from counting hours for recertification. They know what they have does not work. They just do not have the impetus to do so—yet.”

- Phil Rogers, Executive Director of the National Association of State Directors of Teacher Education and Certification (NASDTEC)⁹

* Our understanding of the potential for competency-based professional learning policy is derived from document analyses and numerous interviews with state, district, and union leaders. The examples are illustrative, not exhaustive.

Other states are also positioning themselves to shift to a more competency-based system of professional learning. For example, Tennessee’s evaluation system offers teachers specific feedback for improving practices, and includes a portfolio approach to assessing teaching as part of its literacy reforms. Tennessee Department of Education (TDOE) leaders see promise in micro-credentials for both assessors and coaches in their teacher evaluation program, and they cite micro-credentials as a tool to fuel better follow-up to state-led trainings by collecting evidence of changes in teaching practices.



We are well-poised for micro-credentials in Tennessee. We have a tiered licensing system. And changes to the way we offer credit to teachers for their professional development are rooted more in policy, and less in law. Teachers crave the kind of feedback and resources that micro-credentials can offer, and we as an agency need to be more clear on what is acceptable for districts to pay teachers for PD time within the context of the school day. I would like to explore use of Title II dollars for the development of micro-credentials, fueling collaborative work among and between teachers."

- Kathleen Airhart
Deputy Commissioner, Tennessee Department of Education (TDOE)¹⁰

Case study: An early adopter of educator micro-credentials

Some schools and districts are already experimenting with micro-credentials—and finding success. For the past year, Kettle Moraine School District in Wisconsin has been implementing micro-credentials to provide educators with access to personalized learning opportunities and recognition.

To sweeten the deal, the district provides educators with an increase in their base pay for every micro-credential they earn. The district has seen greater collaboration and collegiality within schools. Micro-credentials were part of the work that led to recognition of Superintendent Pat Deklotz as Wisconsin’s 2016 Superintendent of the Year.

Deklotz links micro-credentials—supported by the local school board in a resolution—to a district vision for “shared ownership of the responsibility of educating our children.” The approach recognizes that supporting educators’ professional learning “is not a fixed script but an ever-changing dynamic.” Micro-credentials, notes Deklotz, present “an attractive enticement for people to come to our district.”¹¹

Even in districts where micro-credentials have not yet taken hold, many system and union leaders are undertaking complementary changes to support competency-based learning. For example, Volusia County, Florida is redesigning its “Deliberate Practice Plan” so teachers can lead their own learning by identifying professional growth areas and collecting evidence of impact. And system leaders have begun to encourage teachers to document their development through lesson studies, Twitter chats, and the district’s own online communities of practice. Micro-credentials offer a powerful next step to support this work.



In this video, as part of the U.S. Department of Education’s personalized professional learning for Future Ready leaders (<http://tech.ed.gov/leaders/>), Kettle Moraine School District discusses the ins and outs of micro-credentialing for professional learning and how it looks in practice.

Next steps

Three critical efforts will advance micro-credentials, resulting in competency-based professional learning systems.

What are the next steps for supporting state and local policy leaders as they advance micro-credentials?

Three critical efforts can build on and mutually reinforce one another:

Invest in a coalition of educators, states, and districts to pilot this work

This coalition of stakeholders would develop and pilot a comprehensive approach to support competency-based professional learning through micro-credentials, with the purpose of addressing many of the concerns district and state policy leaders have surfaced. Doing so will require extensive inquiry into the following questions:

- What is the value of various micro-credentials to educators and their school systems?
- How can the relicensure system be redesigned to recognize how each teacher's personalized learning has an impact on his or her practice?
- How could a move to micro-credentialing impact relicensure systems and practices?
- How can states and districts change their approach to teacher compensation to support micro-credentials and personalized pathways for learning and leading?
- How will the system evolve, and what impact will it have on the professional development resources currently available?

Given the diversity of contexts affecting these issues, pilots will need to involve several states and districts to identify what is possible and pinpoint policies most likely to improve professional learning. A range of stakeholders will need to be involved:

- **Practicing teachers** must inform the architecture of a micro-credentialing ecosystem that reflects the realities of teaching students in the local context;
- **District and union partnerships** will drive effective policy design, implementation, and course correction;
- **Professional development providers**, working closely with teachers and administrators, will design and continuously improve learning opportunities and align them with micro-credential offerings;
- **State and local education agencies** will cooperate to determine how best to acknowledge and incentivize teacher learning, including the leveraging of federal Title II dollars;
- **Researchers** will validate the assessment and scoring process and analyze the impact of micro-credentials; and
- **Philanthropies** will fuel comprehensive and connected innovations across states and districts, strategically spreading lessons learned. Most importantly, micro-credential-based reforms will require investment in effectively communicating what works and why, with particular emphasis on teacher leaders' insights and voices.

Assemble and pursue a powerful research agenda

The credibility of micro-credentials will depend on the evidence of impact of competency-based professional learning. Policy leaders will likely demand such evidence to justify larger investments and policy shifts. Similarly, teachers and administrators will look for evidence to justify the time and energy necessary to engage with micro-credentials.

A range of additional questions will help us better understand the impact of micro-credentials and how to most effectively improve and expand the system:

- Do micro-credentials have a significant impact on teacher practice? Are some more meaningful than others?
- What is the effect of micro-credentials on teachers' perceptions of their own (and their colleagues') skills?
- Do micro-credentials increase collegiality and collaboration within and across school buildings? What types of evidence credibly document teachers' learning and leadership?
- How can micro-credentials incentivize meaningful improvements in practice and leadership for teachers and administrators alike?
- How can micro-credentials, and a system of competency-based professional learning, best inform improvement of preservice as well as in-service teacher education?
- How can micro-credentials "travel" as the labor market for teachers opens up, with different jurisdictions effectively and efficiently recognizing this new form of professional learning?

Of course, answering such questions will demand both a thoughtful research agenda and the political will to collect relevant evidence. While the micro-credential system is designed to collect some data on teacher participation and outcomes, states and districts are often keepers of human capital information that could provide a more complete view of micro-credential implementation and impact. These data are often the subject of political controversy and should be addressed in a fashion that is neither punitive to educators nor dismissive of their import. Moving the needle on these data conversations requires the right coalition of stakeholders—and clear, careful communication.

Similarly, completing this research in a rigorous and reputable fashion will require support from institutions of higher education, research organizations, and philanthropies. High-quality research often requires long timelines and substantial investment of resources. To ensure that the research carries significant weight in future policy conversations, stakeholders must be willing to support it accordingly.

Develop and disseminate best practices

In most cases, professional learning is embedded in state rules and regulations, not state law, so micro-credentials could readily fit inside the current licensure renewal system in many states. However, most state departments of education (which currently oversee teacher relicensure) are understaffed, with many operating at 50 percent of capacity since the 2008 recession.¹²

To overcome this lack of capacity, state and local policymakers will need practical guidance on the key components of micro-credentials, such as quality control, communication, implementation, and incentives. Much of this work and guidance will come from early adopter states and districts as they pilot micro-credentials. We are dedicated to working with these players to spread best practices through toolkits, future publications, and other supports.

Conclusion

Micro-credentials present a unique opportunity to shift the conversation around professional learning away from seat time and toward competency, while also enabling teachers to personalize their learning and bolster their identities as professionals. Significant developments over the past few years, including the rise of digital badging and technologies that support learning in a variety of contexts, make today ripe for this shift.

We are optimistic about policy leaders' growing interest in piloting micro-credentials to transform professional development for and by teachers. The micro-credential ecosystem is off to a strong start, with many engaged partners and significant high-quality content. Yet we still have much to learn about what micro-credentials can mean to teachers, how states and districts can best implement them, and what incentives will make them most compelling. Thoughtfully assembling a coalition of states, districts, content partners, teachers, and thought leaders and answering the right questions will help address significant gaps in professional learning and systems' ability to tap expertise.

*We are convinced that transforming how all **students** learn demands transforming how **teachers** learn and lead.*

We believe micro-credentials offer a powerful path to cultivating, incubating, and scaling excellence and equity in America's public education system.



Teachers design micro-credentials at a CTQ retreat, July 2015

ENDNOTES

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