Micro-credentials for Teachers

What Three Early Adopter States Have Learned So Far

By Jenny DeMonte

States and districts are investigating micro-credentials as a way to promote teacher professional development and give teachers the chance to demonstrate their growing capacity to deliver excellent instruction to students.

The Challenge of Teacher Professional Development

State education agencies make it clear that professional development is critical to the success of teachers and, subsequently, their students. On its website, one state education agency stated that, "Every child in every community deserves excellent classroom teachers and building leaders who are supported in their professional growth" (Colorado Department of Education, 2017, para. 1). Another website said, "The purpose of all teacher professional development is to help teachers develop and apply the knowledge and skills necessary to help students learn" (Oregon Department of Education, 2017, para. 1).

As they acknowledge, promote, and support the importance of professional development, state education agencies continue to search for professional learning opportunities for teachers that align with their educational standards and focus on instructional skills that will result in improved teaching and learning. But these efforts are unlikely to uncover excellent resources. Research on professional development has shown that its effects on teaching and learning are uneven (TNTP, 2016). Some promising and effective professional development materials and programs exist, but many do not deliver the anticipated results. Teachers know this too and are likely to discount the importance and benefits of continuing education and other professional learning offered by states and school districts (DeMonte, 2013).

According to one report (Boston Consulting Group, 2014), states and districts in the United States spend more than $18 billion per year on professional development, and a teacher will, on average, spend about 68 hours per year in professional learning activities paid for by states and districts. For that investment, states and districts want to see results.

Teachers want to participate in professional development opportunities that are related to the work they do in their own classrooms (DeMonte, 2013). They also want professional development that extends over time, rather than one-shot, sit-and-get programs (Archibald, Coggshall, Croft, & Goe, 2011). Teachers have expressed interest in using technology in their professional learning, and they value the

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flexibility it gives them to create their own schedule for engaging in professional learning (Will, 2017a). In addition, teachers in rural or remote areas need access to high-quality professional learning opportunities through technology when other options do not exist (Will, 2017b).

Why Micro-credentials?

The challenge of providing high-quality, relevant, flexible, and broadly accessible professional learning experiences for teachers has led some states to investigate and experiment with the use of micro-credentials for teacher professional development. Micro-credentials offer a strategy for teachers to expand and validate their learning and to receive recognition as they achieve milestones in their professional learning trajectories.

One reason micro-credentials are appealing is that they break down complex instructional skills into fundamental parts. Educators can develop and demonstrate competence in each bite-sized element of instruction, and then weave together these skills to demonstrate mastery in complex skills. Teachers can choose which skill, or which parts of a skill, would most benefit their professional practice, and then they can demonstrate their competency by providing evidence of what they know and can do.

For states, micro-credentials have noteworthy benefits. For one, states can more easily offer micro-credentials that are aligned with teaching standards and other state initiatives (for example, to support efforts to help all teachers develop the skills needed to teach English language learners). For another, micro-credential training is often delivered online, meaning it can be more accessible to rural educators and those who need to engage in professional learning in the evening, on weekends, or during school breaks. Lastly, states using micro-credentials demonstrate their support for educators' abilities to understand their own professional learning needs.

Currently, the research on micro-credentials for educators is thin. Most of the available research is based on teacher feedback about their own use of micro-credentials. For example, a report by Teaching Matters (2016) on the use of leadership micro-credentials noted that teachers like using micro-credentials, they thought the skills they had to learn to earn a micro-credential were important, and they believed that their learning would lead to greater student learning. Another report by Digital Promise (2016a) of teachers who pursued micro-credentials revealed that teachers liked the approach and felt that their practice had improved through earning them. The Friday Institute at North Carolina State University (Acree, 2016) designed 15 micro-credentials, collected survey and interview data from teachers earning the micro-credentials, and reported their findings in a report. Among the findings: Teachers earning micro-credentials use what they have learned in their teaching, and the design and online platform have an effect on the experience of users. The report included examples of the artifacts provided by teachers as evidence of their competency related to the instructional skill laid out in the micro-credential.

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Many aspects related to the design, implementation, and impacts of micro-credentials could benefit from focused studies. For example, it would be useful to know how micro-credentials influence teachers' instructional practice. Does demonstrating teaching

competency by earning a micro-credential translate into observable differences in teachers' classroom practices? What structures or processes are more advantageous or effective when implementing micro-credentials? Which instructional or other skills and competencies best lend themselves to the use of micro-credentials? How should mastery of the targeted skills be assessed and documented? Should micro-credentials be a complement or supplement to other professional development approaches? What other issues should states, districts, and micro-credential issuers consider as they develop and use micro-credentials?

Early implementing states can offer some lessons learned about using micro-credentials.

The Origins of Micro-credentials: Workforce Training

Micro-credentials have their roots in the "digital badge" movement that first gained traction as a way to support adult learning for the workforce. One of the earliest players was a group called Open Badges, created by Mozilla Foundation in 2013 with funding from the MacArthur Foundation.[1] Open Badges specified technical standards for digital badges and provided a place where individuals could collect badges that met these technical standards. The previous year, Mozilla and Peer 2 Peer University in collaboration with MacArthur (2013) released a working paper that described their vision of digital badging as a vehicle for lifelong learning for adults. The same year, the Clinton Global Initiative announced an effort to expand access to Open Badges to help workers certify their skills and improve their economic futures (MacArthur Foundation, 2013). Since then, hundreds of issuers have created and posted badges on many different sites that can be earned in a variety of disciplines and fields. In January 2017, the IMS Learning Consortium took over a notable portion of Open Badges' responsibilities.

Around the same time, a report published by American Institutes for Research in 2013 (Finkelstein, Knight, & Manning, 2013)—funded by the U.S. Department of Education's Office of Vocational and Adult Education—noted that digital badges could help validate functional skills valued in workplace settings. Among the examples highlighted in the report were Badges for Veterans (to help them validate military job skills for civilian settings) and the Manufacturing Institute's National Manufacturing Badge System. A number of industries use digital badging as a way for workers to demonstrate and be recognized for specific competencies. The Interstate Renewable Energy Council, for example, offers badges to trainers and instructors that recognize their ability to lead learning.[2] TechWriter Certification awards badges to those who demonstrate competence in technical writing.[3]

Meanwhile, education organizations noted teachers' growing interest in technology—such as Twitter chats, online courses, and EdCamps—to help them connect to their colleagues and to provide access to better professional learning (Digital Promise, 2016b). The growing interest in and experimentation with digital badges among industry and adult learning advocates likely contributed to the exploration of micro-credentials for teacher professional development.

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[1] For more information about Open Badges, see https://openbadges.org/about/.
[2] For more information on the Dynamic Digital Credential from the Interstate Renewable Energy Council, see http://www.irecusa.org/credentialing/instructor-certification/dynamic-digital-credential/.
[3] For more information about the TechWriter Certification, visit http://techwriter-certification.com/index.html.

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What Are Micro-credentials for Teachers?

Micro-credentials are an approach to professional learning that provides teachers with the opportunity to learn and demonstrate competency in new skills, while also getting feedback from an outside evaluator and earning recognition for mastery by earning the micro-credential. Commonly, each micro-credential addresses a fine-grained, discrete set of educational practices.

There are hundreds of micro-credentials available, which have been created by dozens of different "issuers." Some are available to anyone who wishes to try to earn them, such as those on the public webpage at the Digital Promise website.[4] Others have been designed specifically for a state, district, or program and are not publicly available. The exact cost charged by the issuer depends on the arrangements between states and issuers, but typically the cost of scoring is included.

In addition, BloomBoard—the company that provides the technical platform for many micro-credentials—has partnered with five universities that will award credits toward a graduate degree to someone completing a designated micro-credential.[5] The micro-credentials available for graduate credit are marked by a yellow banner on the website.[6] The cost of the credit and its value toward graduation differ depending on the university, from $40 to $75.[7]

Almost always each micro-credential is part of a "stack" that is organized around a particular area of teaching. For example, a stack of micro-credentials titled "Checking for Understanding" includes three separate micro-credentials: Using Ask, Ask, Ask; Using Gestures; and Using Whiteboards. Another stack titled "Data Literacy" includes Designing and Evaluating Multiple Choice Questions, Disaggregating Data, and Setting Goals for Students.[8] To earn a micro-credential, a teacher must demonstrate competency in the specific skill—a skill already mastered or a skill new to the teacher who needs to study and practice before collecting and providing evidence of competency.

A teacher considering pursuing a micro-credential will typically go to the hosting website, click on the name of the micro-credential, and find:

- the objective of the competency to be demonstrated through the micro-credential;
- the research supporting the efficacy of the teaching competency;
- resources to support learning the teaching competency, such a weblinks to videos or written texts;
- the evidence that must be submitted to earn the micro-credential; and
- the rubric and scoring for how that evidence will be assessed.

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[4] See https://bloomboard.com/microcredential/provider/ac2f23c8-274d-449d-ac3f-6ad29e399737.
[5] The five universities are Brandman University, Fresno Pacific University, University of the Pacific, Portland State University, and University of San Diego.
[6] See the BloomBoard micro-credential website: https://bloomboard.com/microcredential/provider/ac2f23c8-274d-449d-ac3f-6ad29e399737.
[7] See https://bloomboard.com/graduate-credit.
[8] See https://bloomboard.com/microcredential/provider/ac2f23c8-274d-449d-ac3f-6ad29e399737.

Often, the evidence required to earn a micro-credential includes a video of instruction, student work, answers to open-ended questions, reflections, or a combination of these. When the teacher has collected evidence that she believes demonstrates her achievement of the teaching competency, she uploads it to the link included in the online platform. This evidence is sent to a scorer who reviews the evidence, scores it against a rubric, and then determines whether the teacher has earned the micro-credential.

When the scoring is complete, the teacher is notified whether she has earned the micro-credential. In most cases, the teacher will receive specific feedback from the scorer about the quality of the evidence. If the teacher did not earn the micro-credential, then the scorer indicates what she could do to improve the evidence. The teacher can resubmit evidence as needed.

How States Are Using Micro-credentials

States and districts use micro-credentials as a resource to supplement traditional professional development and as a way for teachers to demonstrate competency in instructional skills. In some states, the micro-credentials can count as professional development "credit" toward requirements for retaining a teaching license. For example, North Carolina and Wisconsin allow districts to decide whether to use micro-credentials for this purpose (Sawchuk, 2016).

In some states, the micro-credentials can count as professional development "credit" toward requirements for retaining a teaching license.

Teachers usually can choose from a selection of state education agency preapproved micro-credentials to personalize their own professional learning. For example, the Kettle Moraine school district in Wisconsin was researching competency-based education when it learned about micro-credentialing for teachers. The district incorporated micro-credentials into its professional development program, which allows teachers to propose courses of study for themselves and pursue micro-credentials aligned with the course topic (Sawchuk, 2016). Teachers who completed micro-credentials could earn small base-salary increases.

What Early Adopter States Have Learned

Three early adopter states—Arkansas, Delaware, and Tennessee—offered to share what they learned so far. Officials in these states are quick to point out that they are still learning how best to use micro-credentials. What they have already learned might help other states looking into micro-credentialing as a means to address the current needs and challenges with traditional teacher professional development. Other states that have started to give teachers the option of using micro-credentials for their continuing education units include Illinois, Maryland, Massachusetts, Montana, New York, North Carolina, Texas, and Wyoming.[9]

[9] BloomBoard's question-and-answer page helps teachers determine how to receive credit (https://help.

The lessons learned offered by these three states fall into the following five categories:

- Decide on your purpose
- Start small
- Provide choice (but not too much)
- Keep an eye on the score
- Communicate, communicate, communicate

Decide on Your Purpose

As states begin to use micro-credentials, leaders must make decisions on the intended use and goals. This first step is critical because dozens of stacks of micro-credentials are available. Knowing the intended use will make it easier to select appropriate micro-credentials.

Having an articulated purpose for micro-credentials will help guide the program design. In addition, having a well-stated purpose can help states collect and interpret information gleaned from their initial use of micro-credentials. For example, a well-defined purpose allows states to consider questions such as: Did teachers use micro-credentials as intended? Did teachers believe the micro-credentials included in the program helped them learn intended skills?

To shape their micro-credential pilot, state education officials in Delaware determined that micro-credentials would be used to give teachers additional choices for professional development. Michael Watson, chief academic officer and associate secretary for the Delaware Department of Education, said that he and his colleagues gave considerable thought to redesigning professional learning and wanted to give teachers the opportunity to be in charge of their professional learning. "This is one avenue to personalize professional learning for an educator," Watson said. "We believe that deep, engaging, ongoing professional learning is what good professional development looks like. Teachers want great professional development that's not a one-shot event. Micro-credentials can be part of that."[10]

Tennessee education officials ultimately settled on two purposes for their micro-credential effort: to offer personalized professional learning to educators and to develop an innovative approach to educator licensure.

In Arkansas, state education leaders started with a different perspective. "First, we had to decide what we really wanted someone getting a micro-credential to know," said Sandra Hurst, director of educator effectiveness in Arkansas. Early on, the state department of education began using micro-credentials as part of the induction program for new educators. "We're also thinking about using them to offer professional development on the science of reading," Hurst said.

Tennessee education officials ultimately settled on two purposes for their micro-credential effort: to offer personalized professional learning to educators and to develop an innovative approach to educator licensure, said Machel Mills, director,

bloomboard.com/hc/en-us/articles/207791866-Receive-formal-PD-credit-for-a-micro-credential).

[10] All quotations were obtained from personal conversations with the author in preparation of this report.

professional learning systems, Tennessee Department of Education.[11] "When we were making plans to start using micro-credentials, the first step was to make sure it was going to be a learning experience for our educators," Mills said. Her advice for states starting to think about using micro-credentials: "Have a strong rationale for how and why you plan to use micro-credentials because there are lots of paths you take when you get into it."

Start Small

Although determining and articulating a specific purpose helps states launch a focused a micro-credentialing pilot program, starting with a small number of educators can help them uncover complexities or unintended outcomes while the program is easily managed given its small size.

State educators in Delaware emphasized the importance of starting with a small pilot program and learning from that experience. "On the surface, this doesn't appear complex, but the work is actually very complex," said Watson. For example, states might learn that some of the micro-credentials selected for the program are not attractive to teachers, whereas others are extremely popular. States might want to reconsider what constitutes appropriate evidence for earning a micro-credential after reviewing the evidence submitted by teachers in a pilot program. Watson said his advice to other states starting a micro-credentialing program would be to "start very small, and take your time. Micro-credentials have so much potential, and I'd hate to see them disappear because we didn't go at it slow enough." Delaware's pilot program started with just 19 teachers. Tennessee's 2016 pilot program began with a similar number of teachers.

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Jennifer Kabaker, director of educator micro-credentials at Digital Promise, said her organization has worked with about 15 districts to launch small pilot programs. "You start small so you can learn about what works, and then refine your approach as you scale up," she said. For example, by starting small states can get firsthand knowledge of the kind of evidence teachers submit. States might review the evidence and decide to choose a different micro-credential to offer before they scale up the program for hundreds of teachers—one that might be more closely aligned to state initiative.

One key to designing a good, small pilot program is to target the micro-credentials for a specific purpose and group of teachers. "Some [states] decide to start with their novice teachers, and so they focus the micro-credentials they choose on fundamental teaching skills, like classroom management," Kabaker said. "Others might start with their coaches, who are already high-flyers, and use micro-credentials to give them support and learning that will help them give feedback to mentees."

[11] Tennessee included a description of the pilot program using micro-credentials in its state plan submitted to the U.S. Department of Education under the Every Student Succeeds Act (see https://tn.gov/assets/entities/education/attachments/ESSA_Draft_Plan_Full.pdf).

Provide Choice (But Not Too Much)

A frequently cited strength of micro-credentials is that they allow teachers to personalize their professional learning. Officials in states that have piloted micro-credential programs agree. "One of the goals of our micro-credentialing program was to offer teachers 'voice and choice' in their professional development, something that teachers always say they want," said Tennessee's Mills. Tennessee, like the other states quoted in this brief, selected the micro-credentials to be made available to teachers and then allowed teachers to choose which they wanted to earn.

Arkansas chose to offer micro-credentials that align with the Framework for Teaching, the rubric used in its teacher evaluation system.[12] State officials selected a handful of micro-credentials related to Domain 2: Classroom Environment and Domain 3: Instruction, and these options were offered to teachers in the pilot program. Teachers could choose which micro-credential to work on, but the choice "set" for micro-credentials was limited to those that state officials believed were directly related to their state's instructional standards.

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Watson, in Delaware, said this work is akin to curating a large collection to find the most useful pieces. The work of selecting is important because it sets the stage for the professional learning for educators. "The menu that is offered becomes the opportunity for teacher learning," he said.

Keep an Eye on the Score

When teachers submit materials required to earn a micro-credential, those artifacts and evidence go to a scorer. Often, scorers work for the organization issuing or hosting micro-credentials, but in some cases, scorers work for the state education agency.[13] The scorer, who has been trained to evaluate submissions using a rubric often specific to each micro-credential, reviews the submitted evidence (e.g., video of teaching, student work, and/or teacher responses to questions) required to earn the micro-credential. If these receive sufficient scores on the rubric, then the teacher is notified that she has earned the micro-credential.

Understanding how micro-credentials are scored is something states should pay close attention to, said Delaware's Watson. "Looking at scoring is an important step for states getting involved in micro-credentials," he said.

In Arkansas, state education officials focused on the process for scoring and quality assurance. Hurst said that she and her team made sure that everyone in leadership understood the importance of the scoring process. "We made sure everyone here understood the importance of having people score with validity so we had quality assurance," she said.

[12] For more information on the Framework for Teaching, visit http://www.danielsongroup.org/framework.
[13] For example, Digital Promise, Teaching Matters, and BloomBoard all employ and train scorers.

Mary Strain, director of national partnerships at Teaching Matters, said that even before they begin scoring a district's micro-credentials, they work closely with the district to create a program that is meaningful to the district. "Micro-credentials can define what a school system values, so the content that is offered is important." Scoring then becomes a critical part of ensuring that the micro-credentials document these skills that are meaningful to the district. "We spend a tremendous amount of time norming scoring, so we have a good idea of what competency in a particular skill looks like across the system," Strain said. "Because of this, district officials can be assured that what is being scored is valid, reliable, and meaningful."

Communicate, Communicate, Communicate

State officials in Arkansas, Delaware, and Tennessee agreed that communication was essential to their early work in micro-credentialing, whether that meant bringing the right people to the table to do the work or beefing up technology tools so teachers can connect with each other.

In Arkansas, Hurst said that she quickly realized that she needed to get her state's education leadership up to speed on micro-credentials for the program to be a success. "We got started and got great feedback, so we sat down with leadership to show them all the steps involved. Not just the creation of micro-credentials, but where do you house them, how does the submission process work, and so on," she said. "We started with our small team, but then pulled in the school improvement team and strategic planning team." In addition to communicating with the leadership team, Hurst had to spearhead efforts to get the legislature to change the language in the legislation related to professional development to move away from accumulating hours of professional development toward allowing micro-credentialing to count for required professional learning. Hurst's efforts were successful.

"Delaware's role is to convene the correct people to understand, work on, and implement the program," said Watson. In this case, that meant bringing educators from the field to be part of the process early on. "We are doing this from the ground up, and we are doing this with teachers," he said.

Tennessee made sure to include new and experienced teachers by asking veterans to reach out to novices. "When we sent invitations to participate in the pilot to experienced teachers, we asked them to invite a novice teacher to join them in the process. We wanted to embed the spirit of collaboration into the micro-credentialing work from the beginning," said Mills. One communication issue that surfaced during the early micro-credentialing work was the lack of a strong online community among educators. "We did not have a robust online community, and we want to improve that so that our teachers across the state can share and learn from each other," Mills said.

State officials agreed that communication was essential to their early work in micro-credentialing, whether that meant bringing the right people to the table to do the work or beefing up technology tools so teachers can connect with each other.

What Is Next for Micro-credentialing

Even though micro-credentials are gaining in popularity for teacher professional development across districts and states, there are still a number of important areas for future work.

A powerful piece of research would be to study teachers' practices before and after earning a micro-credential or a stack of micro-credentials to detect differences that may have been influenced by earning the micro-credential.

First, there is a need for systematic research on micro-credentials as states continue to experiment with them. The initial responses from teachers noted above are heartening; teachers often like earning a micro-credential and see the value in improving their professional practice. But a stronger research agenda could start with work to catalogue the purposes states have for using them as well as the micro-credentials they choose to match those purposes. Another line of research might be to study the design and content of different micro-credentials as a first step toward understanding whether and how earning them influences what teachers know and can do. Do design differences account for variation in teacher competencies after earning a micro-credential? The scoring of micro-credentials presents its own set of questions. For example, is a higher or lower score on the micro-credential related to whether teachers retain the competency they may have learned? A powerful piece of research would be to study teachers' practices before and after earning a micro-credential or a stack of micro-credentials to detect differences that may have been influenced by earning the micro-credential. Documenting changes in teaching practice and any impact on student learning could be beneficial in determining micro-credentials' return on investment for districts and states. Such research could indicate that earning a micro-credential is a signal of what teachers know and can do to improve student learning.

Second, although micro-credentials can influence teaching practice, they are likely best implemented as part of larger professional learning strategy for teachers. For example, if teachers receive coaching related to a specific skill, then engaging in a micro-credential would help a teacher and coach know whether the coaching was helpful. Or, in the example from the Kettle Moraine school district noted previously, teachers could create their own course of professional study and use micro-credentials to demonstrate competencies at the end of the course. Giving teachers control of their own professional learning may be an important part of the power of micro-credentials; this question could also be worthy of investigation.

Finally, micro-credentials could be part of a continuum of career development strategies for teachers. Arkansas is using them as part of an induction program, while Teaching Matters has designed them to support teachers hoping to become teacher leaders in their schools (Teaching Matters, 2016). Another option could be to link them to certifications for experienced teachers. For example, a veteran teacher may want to earn an additional certification to teach a different grade level or to teach students who are English language learners. However, it is unclear whether an earned micro-credential recognized in a state or district would be valued if a teacher moved to another state or district. It would be easier for states and districts to assign meaningful value to micro-credentials if there were evidence that teachers who earned those micro-credentials actually demonstrated improved instructional practices as a result. Those kinds of data

about specific stacks of micro-credentials might give states and districts the opportunity to use them to offer licensure advancement or endorsement or even to change educator pay.

It will likely be awhile before that kind of impact evidence is available about micro-credentials. In the meantime, expect to see the micro-credential universe grow and to watch states and districts experiment with this novel approach to support teacher professional learning.

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