



MICRO-CREDENTIALS AND TEACHERS:

What Do We Know?

What Do We Still Need to Learn?



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WHY THIS BRIEF?

Micro-credentials (MCs) are a rapidly expanding element of modern teacher professional learning. In this brief, we provide a concise review of what is currently known about MCs: how they work, their strengths, their shortcomings, and what we still need to learn. For districts and states that are considering introducing MCs, **this brief is designed to ground implementation efforts in emerging best practices.** This brief is intended for both educators and researchers to improve and support teacher professional learning. **The document includes a forward- looking research agenda focused on the MC practices that are most likely to result in positive outcomes for teachers and students.**

WHAT ARE MICRO-CREDENTIALS (MCs)?

Educators learn new things throughout their careers – from instructional techniques to new content.

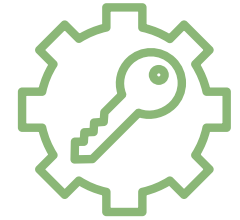
Sometimes, this professional learning happens in a traditional setting, such as a workshop or advanced college course. Learning in these traditional settings is typically validated with a certification or degree, which can open new opportunities for teachers. However, teachers also learn skills as part of their daily work as educators in the classroom, in informal learning settings (such as department meetings), or as part of their pursuits. All this additional learning makes teachers better at their jobs, but it is not formally recognized or validated. Over the last 5 years, we have seen an increase in the use of MCs to recognize teachers' additional learning. **An MC is a portable form of digital certification, indicating that an educator has demonstrated a specific competency.**

Regardless of where and when the learning takes place, MCs are designed to give educators the following:

- 1 The feedback and guidance they need to solidify a competency
- 2 Validation of achieved competence
- 3 The ability to share information about that skill set with others

HOW DO EDUCATORS GET MCs?

MCs are an evolving strategy for recognizing teachers' professional learning. Approaches to MCs vary depending on the developer, the online platform host, and the purpose and content focus of the MC. However, MCs almost always include the following elements:



- **Micro:** MCs focus on measuring a specific skill or competency, typically demonstrated by job-embedded evidence. While a college degree can certify a teacher to teach elementary education—a broad topic with many different embedded competencies and content areas—an MC drills into specific topics or skills within elementary education.

- **Digital:** MCs are hosted online. They are sometimes supplemented with in-person professional learning opportunities, but the MC platform, process, and final validation are digital.



- **Evidence Submission:** To receive an MC, teachers submit evidence of their learning. Types of evidence can include videos of lessons, lesson materials, and submitted student work.
- **Review of Evidence:** MC issuers review the submitted evidence for each MC (or element of an MC) using a rubric. These rubrics are typically built into the platform and are available for teachers to review before submitting evidence.

- **Individualized Feedback:** After the review, MC issuers either provide individualized feedback for improvement or validate that the learning is complete. This feedback step is critical, as it is where much of the learning and improvement that are built into MC design take place.



- **Multiple Opportunities to Demonstrate Competence:** Typically, an MC platform allows teachers who do not demonstrate competence to review feedback and resubmit evidence a certain number of times. If teachers do not demonstrate competence within that required timeline, they are typically allowed to sign back up for the MC after a specified period and retry.
- **Validation:** Once the competency has been demonstrated, the MC issuer provides a tangible validation of learning. Many platforms use a digital “badge” or icon that teachers can place on professional pages (e.g., LinkedIn) and resumé, or share with colleagues and supervisors.
- **“Stacked”:** MCs are often offered in “stacks,” or themed groupings. A teacher can select one MC from a grouping or complete the full stack for a higher certification. Some issuers (e.g., universities, local districts) pair the digital validation for MC stacks with other types of certification, like college credit or certified professional development hours.
- **Learning Resources:** MC providers often include a wide variety of resources to support the teacher including exemplars, readings, and on-line coaching.
- **Collaboration:** Is part of the MC, the teacher will receive feedback from the issuer to improve practice prior to submitting their final evidence. In some cases teachers will work with other educators during the process.



Let's talk through these elements using a hypothetical example.

Ms. Brown is participating in the “Morning Meeting for SEL” MC—an elementary MC. This MC focuses on the “**micro**” competency of leading productive classroom meetings to maximize students’ social and emotional learning (SEL).

The MC “lives” on a digital platform hosted by a local university. Ms. Brown is already leading morning meetings in her classroom. As part of her school’s new focus on SEL, she also participates in regular grade-level meetings to learn about school-provided SEL resources and collaborate with her colleagues. She is signing up for the MC because she wants some feedback on how to connect her existing morning meetings to SEL opportunities for students. Ms. Brown would also like to show her administrators that she is actively building expertise in a priority area. As part of the MC process, there are often additional tools and resources available that Ms. Brown can access as she prepares her evidence from her classroom morning meetings, including a series of three videos, a set of activity plans, a short justification statement detailing Ms. Brown’s understanding of the purpose of the morning meeting and its connection to student SEL, and a morning meeting structure design. The university MC issuer reviews the submitted evidence. The issuer determines that Ms. Brown is meeting the standard for many of the required elements, but her meetings do not always provide students with a chance to share their thoughts and receive peer feedback individually. The issuer provides the first round



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of feedback, and Ms. Brown submits a revised set of activity plans and one new sample video. This time, the issuer determines that Ms. Brown has met the standard and certifies her competence in “Morning Meetings for SEL” with a digital badge. Based on her MC feedback, Ms. Brown adjusts her morning meetings to better incorporate student voice and peer interactions. Ms. Brown also sends the digital badge and the details to her administrators, who save the information as part of her professional learning portfolio. Over the next year, Ms. Brown plans to participate in the entire “Class Structures to Support SEL” stack of MCs, which qualifies as a full five-credit college course.

MCs usually differ from traditional teacher professional learning in four key ways (Berry, Airhart, & Byrd, 2016):

- 1 They are **competency-based** and focus on evidence of skill.
- 2 They are **personalized** to meet the needs of the educator.
- 3 They are available **on demand**, allowing for flexibility in scheduling.
- 4 Once earned, they can be **shared** via a badge or currency, indicating a level of specific professional learning.

HOW ARE MCs DIFFERENT FROM TRADITIONAL TEACHER CERTIFICATION AND PROFESSIONAL LEARNING?

After initial licensure, most state professional learning or certification systems have few levels to indicate teachers' growing accomplishments and skill sets.

To move from one level to the next, teachers must engage in years of often costly and sometimes irrelevant professional development. Under traditional arrangements, for example, teachers often engage in professional learning for which they receive no professional credit or recognition (although they may be paid to undertake the professional learning).

MCs are different. **Because MCs focus on specific skills and competencies, teachers can skip the ones they do not need and focus on the ones that will be useful.** MCs are more differentiated than traditional professional learning (Rasberry, Weber, and Wilson, in press) and are typically recognized by different districts and states.

An MC represents a **measure** of competence for an individual, not the **method** of learning. However, MCs can be paired with various learning methods including collaboration with peers, in-person training, and a variety of other resources and materials



“If we take what we know about (1) the characteristics of high-quality PD [professional development/ learning] and (2) what educators want in their PD, it is clear that traditional professional learning structures—“sit and get” learning, “one and done” experiences, and “one-size-fits-all” events—are no longer viable for advancing and supporting teacher practice. **In an ever-changing world where classrooms are evolving, new instructional tools are emerging, student demographics are changing, and community contexts matter more than ever,** we must think ... about how to make the learning experiences of teachers more grounded in their classroom practice and steeped in active inquiry and improvement cycles.”

— Rasberry, Weber, & Wilson, In Press



NUMEROUS STATES AND ORGANIZATIONS SUPPORT THE USE OF MCs

Many states and districts are turning to MCs to support teachers in their ongoing learning and recognize their accomplishments and skills.

Additionally, many organizations are working to build out necessary resources and tools to support the implementation of MCs (for example, Bloomboard, the Council of Chief State School Officers, Digital Promise, and the National Education Association).

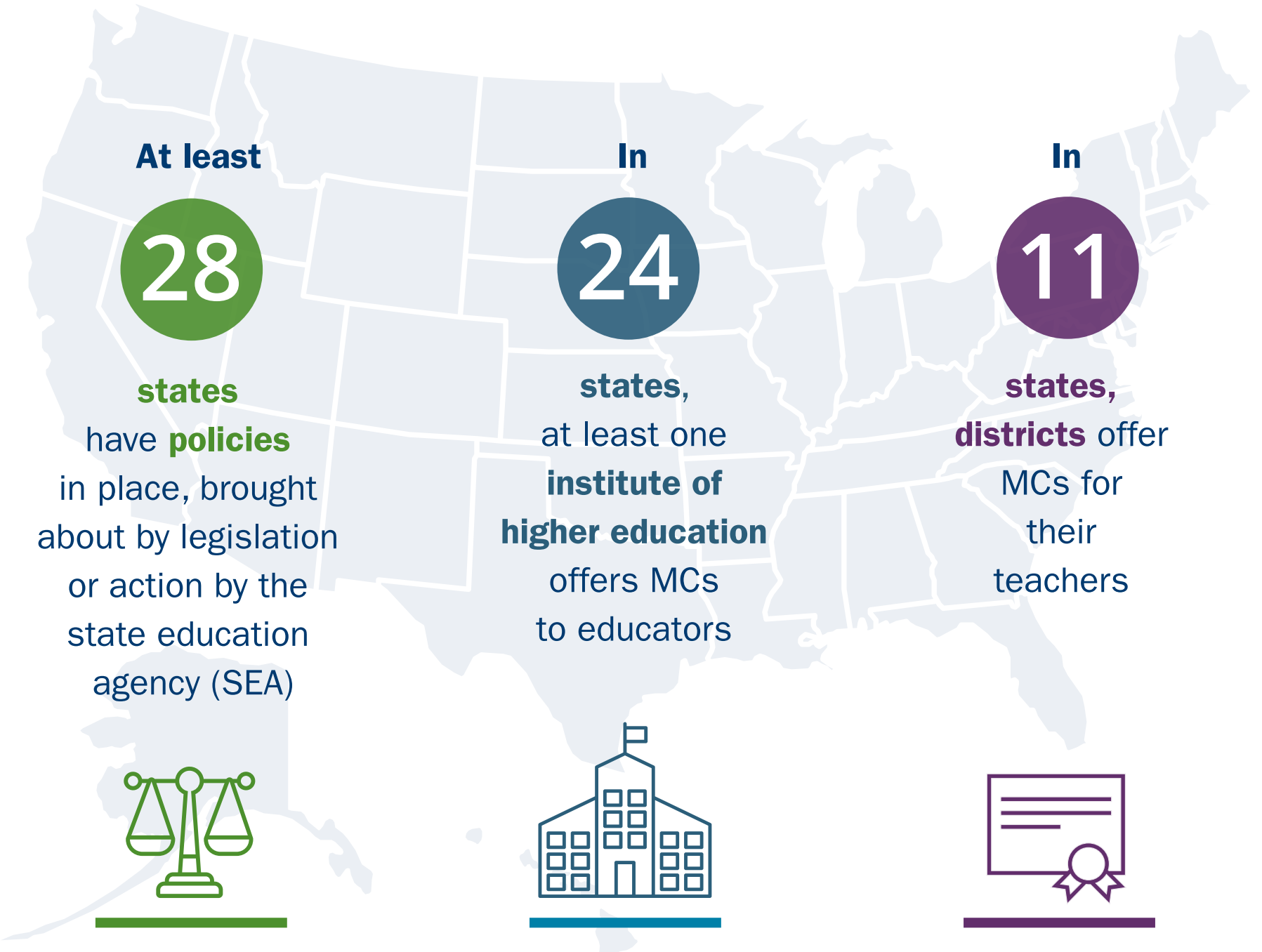


Check out these resources:

— <https://ccsso.org/resource-library/design-assessment-and-implementation-principles-educator-micro-credentials>

— <https://digitalpromise.org>

— <http://www.nea.org/home/microcredentials.html>





WHAT DO WE KNOW SO FAR ABOUT MCs?

For decades, professional learning for educators has had varying levels of impact, with some success in some programs in some contexts (Jacob, A., & McGovern, K., 2015).

States, districts, and teachers invest considerably in professional learning—in terms of both time and money—and want to see results from their investment. Teachers spend 68 hours per year in professional learning activities, and around \$18 billion is invested yearly in professional learning nationally (Bill & Melinda Gates Foundation, 2014).

Teachers and administrators agree on what good professional learning looks like: It treats teachers like professionals and is relevant, interactive, sustained over time, and delivered by someone who understands their experience (Bill & Melinda Gates Foundation, 2014). Teachers are eager to engage in professional learning that is more job-embedded and focused on what they specifically need in their classrooms, and many are finding that through MCs (Rasberry, Weber, and Wilson, in press).

Teachers spend 68 hours per year in professional learning activities, and around \$18 billion is invested yearly in professional learning nationally.

1

We know that teachers:¹

- **Like** the flexibility and personalization of MCs as an approach to professional learning.
- **Report** that the skills they learn while obtaining an MC align with their work and connect to specific classroom practices.
- **Find** value in the personalized feedback and collaboration with the MC evaluator.
- **Appreciate** that MCs are a form of professional learning “currency” that can be transferred and/or used in other educational settings.
- **Believe** that earning MCs improves their classroom teaching and benefits students.

2

We know that MC implementation requires districts and schools to:²

- **Have** a clear and specific focus for the MC. Implementers should start small with a few MCs to ensure they are well designed.
- **Recognize** that MCs might be a paradigm shift for many educators. Implementers must build buy-in for the process by communicating clearly about the purpose, utility, and expectations of MCs.
- **Ensure** rigor and validity if MCs will be used in any high-stakes decisions.
- **Be aware** of the technical infrastructure needed to ensure all educators have access to materials, and to organize and share MCs at the system level.

3

We know other industries tell us that:³

- An MC can **demonstrate** to employers an employee’s willingness to learn specific skills and acquire new skills.
- **Introducing** new groups to MCs may be difficult, because in many cases the willingness of an employer to use an MC as a credential is based on previous experience.
- In some cases, employers are willing to **accept** MCs from other non-related industries as an indication of competency, recognizing the ability of MCs to identify a specific set of skills.

WHAT DO WE KNOW ABOUT WHETHER MCs ARE EFFECTIVE?

Districts and states invest a significant amount of resources in professional learning for teachers and are excited about the potential of MCs.

While MCs do show promise, we do not know much about their effectiveness. As Rasberry, Weber, and Wilson (in press), Ross (2016), and others have noted, there is little research specifically examining the impact of MCs on teacher practice or student outcomes. Ross (2016, p.5), for example, found “no empirical research studies related to the use of micro-credentials in K–12 educator professional learning.”⁴

Given the need for effective and evidence-based professional learning for teachers, there is value in studying MCs and their effectiveness in improving teacher practice and classroom outcomes for students.

Some studies have found positive effects of professional learning on teacher practice, but we still need to determine if MCs are effective as well. For example, a recent meta-analysis found that professional learning—which includes individualized training, active learning opportunities, and better use of data by teachers—can improve teacher practice (Garrett, Citkowitz, & Williams, 2019). The Learning Policy Institute’s 2017 review of 35 studies identified seven common features of effective professional learning, including active learning, a focus on content, collaboration, and ongoing feedback. Various aspects of effective professional learning (as shown in the graphic on page 12) are integral to MCs, and this solid foundation suggests that MCs are also effective. However, as we note above, the impact of MCs on teacher practice and student outcomes has not been directly examined.



HOW CAN WE LEARN TO HARNESS MCs' TRANSFORMATIVE POTENTIAL?

Practice informs research (and vice versa). While there are several promising practices when it comes to implementing MCs, there is a lack of rigorous research on MCs in the field.

However, this is certainly not unusual, and a back-and-forth process—in which practice informs research, and vice versa—can be highly effective in yielding good practice and research. What we have learned in practice thus far is highly informative and can help us build out research examining MCs.

Recognizing this interdependent process, it useful to consider how research on professional learning applies to the specific practice of MCs. Though current research does not specifically speak to the effectiveness of MCs, the work does provide a strong foundation to inform what we should examine in the future.

Four pillars of effective professional learning undergird MCs:

- 1 Job-embedded professional learning
- 2 A cycle of inquiry
- 3 Rigorous evaluation and assessment
- 4 Job-embedded support and collaboration



The figure below provides an overview of these pillars, the research base, and recommendations to consider when determining the role MCs could play as part of a professional learning system.

Micro-credentials have four pillars that have been shown to be linked to positive teacher and/or student outcomes.

Micro-credentials include:

Job-Embedded Professional Learning:

When learning is embedded, teachers are invested, and meaningful instructional change happens.

High-quality PD is **individualized, relevant and self-directed**, and has active learning opportunities to try new strategies in context.

Chung, 2008; National Staff Development Council, 2010; Sato, Wei, & Darling Hammond, 2008

A Cycle of Inquiry:

The discipline of analyzing, reflecting, and documenting is the key to change.

High-quality PD is **problem centered and interactive**, helps teachers use data to inform their practice via plan-to-study-act, and has follow-up and continuous feedback.

Bryk et al., 2011; Cushman, 1999; Tichnor-Wagner et al., 2017

Rigorous Evaluation and Assessment:

Mastery of a topic, not seat time, is evaluated and assessed.

High-quality PD **includes teachers examining and responding** to their own performance data, is based on mastery and demonstration of specific content and practice, and has a valid and rigorous review process.

Garet et al., 2001; Institute of Education Sciences, 2010; LeBreton & Senator, 2008; Nunnally & Bernstein, 1994

Job-Embedded Supports and Collaboration:

Teachers develop expertise as members of collaborative, interdisciplinary teams with common goals for student learning.

High-quality PD **provides opportunities for collaboration** among teachers, is delivered by someone who understands and respects teachers, and has embedded coaching, follow-up and feedback.

Harwell, D'Amico, Stein, & Gatti, 2000; Hill et al, 2010; National Comprehensive Center for Teacher Quality, 2011; Putnam & Borko, 2000

WHAT QUESTIONS STILL NEED TO BE ANSWERED REGARDING MCs?

Our examination of the field, a set of research themes have surfaced as areas of interest for practitioners, policymakers, MC issuers, and validating institutions.

Critical research questions (RQs) and measurement approaches are:

RQ 1 | What is the impact of the MC process on teaching and learning?



As with any professional development opportunity, we hope that MCs result in better teaching and an increase in student learning. The core benefit of MCs will be demonstrated if teachers change their practice, and if that change results in an increase in student outcomes:

- Educator participants effectively demonstrate the competence measured by the MC in their classrooms.
- Students of “competent” educator participants (as measured by the MC) experience the instructional practices measured by the MC in their classrooms.

RQ 2 | To what extent do stakeholders value MCs?



Broad buy-in is necessary to sustain any teacher preparation or professional learning system in the long term. Achieving buy-in from across the MC ecosystem has two main benefits:

- Teachers and other participants see the MC as a valid and valuable measure of their competence and learning.
- Validating institutions—such as universities or school districts—share participants’ views of the MC as a valid measure of teacher learning and efficacy, and invest resources to support implementation or acknowledge certified mastery.

RQ 3 | How should MCs measure competence and learning for teachers?



MCs represent a specific approach to professional learning. As with any professional learning approach, MCs have both strengths and limitations in their ability to measure learning and competence accurately. Understanding these strengths and limitations will help stakeholders develop effective MC systems with the following characteristics:

- The content focus, “grain size,” and competence measures for each MC are well suited to the delivery method.
- The audience for the MC is targeted and tied to evidence of instructional change.

RQ 4 | What are the critical elements of effective structures or ecosystems?



Just as MCs are particularly effective for covering certain content or competencies, there will be structural approaches to individual MCs and MC “ecosystems” that provide maximum value for participating educators and the students they serve. When determining which approach to adopt, consider the following:

- Districts and SEAs that are implementing MCs can integrate them with other existing professional learning and accreditation systems.
- MCs are adequately standardized as a metric of teacher achievement to allow them to “move” between districts, states, and issuing and validating organizations, etc.
- Issuing and validating organizations understand the balance between impact (most effective) and *resources* (least money to implement and sustain) and can develop MC systems that meet requirements in both areas.

Research Question / Need



Measurement / Approach



RQ 1 | What is the impact of the MC process on teaching and learning?

Are MCs effective?

- Are MCs effective at measuring teacher instructional practices or competencies?
- Are MCs effective at changing or improving teacher instructional practices or competencies?
- Are there positive end-level impacts for students of teachers who participate in MCs?

- Direct program evaluation of different elements of MC system implementation, incorporating the following:
 - Classroom observations
 - Teacher/student surveys
 - Changes in student grades/scores (*depends on MC content*)

Are MCs more effective (i.e., have greater impacts on classroom practices) for different types of teachers?

Types of comparisons include the following:

- Years of teaching
- Subject specialization
- Grade level
- Path to certification (*alternative versus traditional teaching certification*)

- Sample survey of participating teachers
- Review and comparisons of MC data from certifying organizations (*e.g., Bloomboard, Digital Promise*)

Are MCs more effective as a measure or validation of learning that is happening externally to the MC system (i.e., in a more traditional professional learning environment), or as a professional learning content delivery system with a validation component?

- Focus groups with issuer and validating institutions

Research Question / Need



Measurement / Approach



RQ 2 | To what extent do stakeholders value MCs?

What are the critical elements of an MC that need to be present for stakeholders to view MCs as a valid measure of competence?

- Sample survey of participating educators, districts, validating institutions, and SEAs on value perceptions
- Review of existing MC systems to identify cross-cutting elements

What is the average resource investment required for a successful MC system implementation at the school, district, and state level?

- Landscape scan to inform policy brief
- Interviews/focus groups with current state, district, and school-level MC implementers

What policies currently exist at the state level that are supportive of MCs?

What policies exist at the district level?

- Landscape scan to inform policy brief

RQ 3 | How should MCs measure competence and learning for teachers?

How should competence be demonstrated and measured in an MC?

- Who decides the measure of competence?
- How is the competence measure tied to “downstream” change (*i.e., change in instructional practice, change in student experience*)?
- What are the processes for adapting competence measures?

- Scan of existing MC issuers and validating institutions
- Review of the literature on competency-based assessments

What is the ideal “grain size” and content focus for an MC?
Types of MC elements include the following:

- Time to complete
- Quantity of measures
- Quantity of participant evidence required
- Types of content covered

- Review of data from existing MC platforms to compare elements of MCs that achieve the following:
 - Attract/recruit the most participants
 - Retain/complete the most participants
 - Complete the most participants in the fewest attempts (versus need to resubmit)

Research Question / Need



Measurement / Approach



RQ 4 | What are the critical elements of effective structures or ecosystems?

How should districts and SEAs integrate MCs into existing professional learning and accreditation systems?

- Online versus in-person learning environments
- Connections to opportunities for advancement or teacher leadership

- Focus groups with districts and SEAs
- Practice scan

How do MC systems align? (NEA, 2018)

- “Portability” between the district and state MC systems
- Alignment with existing district or state professional learning and certification structures
- Competency in MC “bundles” or “stacks” as equivalent measures of professional achievement
- MC equivalencies to traditional measures of learning and advancement (e.g., *recertification and licensure, teacher leadership positions*)

- Policy scan
- Partnered evaluation or policy project with the National Education Association or other national associations focused

What do effective MC systems cost (once we define the critical elements of an MC)?

- What is the cost per participant
- What is the cost of developing a new MC?
- What is the cost of making adjustments or additions to an existing MC?
- What are the “ecosystem” costs and effects that implementing organizations should understand when budgeting for an MC (e.g., *stakeholder rollout costs, communication, contracts or agreements with validating institutions*)?

- Case studies with implementing SEAs and districts

CONCLUSION

In this brief, we have provided information on MCs, including the research base and best practices, why many educators are taking advantage of MCs, and the benefits of MCs (compared with traditional professional learning systems) in terms of advancing educators' accomplishments and skill sets. We trust that this brief has been informative and useful as we all consider how MCs might be best used to support teachers and ultimately students.

Since MCs represent a growing field, we want to hear what you think!

If you have further questions, ideas, or just want to brainstorm a little, please reach out to us.



General questions on the use of MCs:

— Gretchen Weber
gweber@air.org

— Lisa Lachlan
llachlan@air.org

Development of MCs:

— Jessie Kerr-Vanderslice
jkerrvanderslice@air.org

— Verna Lalbeharie
vlalbeharie@air.org

Research on or evaluation of MCs:

— Rachel Garrett
rgarrett@air.org

— Jason LaTurner
jlaturner@air.org

MCs in computer science:

— Melissa Raspberry
mrasberry@air.org

— Joseph P. Wilson
jwilson@air.org

Contributing authors to this brief include Jessie Kerr-Vanderslice, Jason LaTurner, and Liz Nelson.

Design by Felice Tirogoff and Jeanine Reed.

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