

Micro-credentials: the potential of personalized professional development

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In 2016, Klaus Schwab introduced the beginning of the Fourth Industrial Revolution (4IR), which is characterized as the explosion of industrial innovation from fast-paced emerging technologies and digitalization across the world. This has yielded profound and systemic changes in organizational structures (Schwab, 2016). The ease of access to information facilitates personalized learning systems and emphasizes highly specialized skillsets of workforce employees. Therefore, Schwab (2016) noted that the job markets in the 4IR will require more high-skilled and specialized workers. This shift is directly connected to the field of education, where the role of professionals is to prepare students to successfully navigate within society. There is a need to analyze how personalized and specialized environments can impact the field of education and in so doing, start the process of altering systems and conventional ways of supporting educators and students so they may be better equipped to succeed in the 4IR.

Leaders in education have begun to address these challenges and experiment with personalization through the creation of and investment in accessible and relevant professional development (PD). This PD, called micro-credentials (MC), is designed to allow educators to explore PD that is meaningful to their practice and advances their skillset. "Four key features define educator MCs: They are competency-based, personalized, on-demand, and shareable. As a personalized learning design, MCs allow educators to focus on a discrete skill related to their professional practice, student needs, or school goals," (Crow and Pipkin, 2017). Successful earners of a given MC are awarded with an electronic visual, or badge. Badges contain metadata, which can be used to determine who awarded the badge, what the earner did to earn the badge, as well as when the badge was earned and if it expires. The data contained within these badges bring transparency to districts, as well as state licensing agencies in regards to the PD that is being earned by teachers, leading several states to explore the potential MCs offer in supporting personalized PD.

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Connecting MCs to State Initiatives

The passage of the [Every Student Succeeds Act \(ESSA\) \(2015\)](#) has granted more flexibility for states to rethink and redesign teacher evaluation systems to promote professional learning and growth. Under ESSA, educators and administrators are expected to increase access to personalized learning for students with diverse needs. Higher expectations for creating more complex, student-centered learning environments for all learners has urged some states to provide educators and administrators with opportunities to receive personalized professional learning as well, often through the offering of MCs. Currently, MCs are referenced in nine state ESSA plans (i.e., Alaska, Arkansas, Delaware, Maine, Maryland,

Michigan, New York State, North Carolina, Tennessee). These states demonstrate a close relationship between MC and personalized professional learning opportunities and/or tools.

For instance, as a pioneer in MC, Tennessee has defined the innovation in its state ESSA plan as competency-based professional learning that educators may pursue based on their improvement needs and interests. In partnership with three organizations that offer MCs (i.e., the Center for Teaching Quality, Digital Promise, and BloomBoard), the state launched a pilot starting in 2016 to allow educators to earn up to three MCs in STEM and social and personal competencies as a possible alternative pathway for licensure renewal (DeMonte, 2017). In Delaware's ESSA plan, MCs are defined within a personalized learning design that helps educators identify and meet their own professional learning needs and goals. The state highlights that MCs are personalized and competency-based and is currently using its online professional learning initiative to pilot the use of MC with several local school districts (DeMonte, 2017). Although not universally adopted, it is clear that states view MCs as an innovative pathway toward teacher re-licensure and skill development.

Innovation

Traditional PD is often delivered in a whole group format aimed at providing instruction tailored to the needs of districts and/or schools. It is also often costly, bound by time and space and provides little opportunity to demonstrate mastery of content. Typically, this type of PD is offered in a single setting, and there is rarely an extension or follow-up of the content learned (Bill and Melinda Gates Foundation, 2014). By design, MCs address many of these challenges by offering PD that is personalized, competency-based, flexible, and collaborative (see Table I). Though relatively new to education, MCs have the potential to not only provide meaningful PD, but to align the field of education with current trends in industry and business.

Accessing Micro-credentials

As interest grows around MCs, many wonder where and how to access them. Multiple organizations have developed platforms that deliver MCs, provide opportunities to assess submitted materials, and collect relevant data. Given the high number of platforms available, MCs can vary in earner expectations, content structure and time it takes to complete the MC.

Additionally, there is no uniform structure for how state licensing agencies accept MCs in relation to PD credit. It is up to the earner to determine how MCs relate to their practice and which MCs will be accepted for PD credit.

Educators interested in earning MCs begin the process by choosing a platform (e.g. digitalpromise.org, learningdesigned.org) and creating a user account. Once in the system, they will review the organization's available MCs and select one/s that align with their personal needs and interests. To complete the MC, earners will need to work through the content provided and complete the assessment requirements. This may include creating a video demonstrating the skill, writing a reflection, compiling a portfolio, and so forth. Assessment materials are then submitted to the organization following submission requirements. Once these materials are evaluated, earners will receive feedback and if they have successfully met the MC evaluation criteria, they will be awarded the corresponding digital badge. This badge may be shared electronically with the earner's district and state licensing agency, as well as posted on social media accounts.

Conclusion

The rapid growth of technology and the 4IR is impacting all sectors of society. The field of education is both learning from and informing these changes. One way this is occurring is

Table I Benefits of Micro-credentials for educators

<i>Benefit</i>	<i>Description</i>
Personalization	MCs offer personalized professional learning that addresses diverse, personal needs and goals of educators and administrators as adult learners
Competency	MCs are competency-based in that educators and administrators can develop and demonstrate competence in a discrete instructional or leadership skill
Flexibility and Cost	MCs – often supported by online learning platforms – reduce cost and geographic barriers to participation, thus providing more flexible, accessible learning opportunities to educators and administrators
Efficiency	
Collaboration	MCs promote effective collaboration among educators and administrators with shared platforms for sharing, discussing, and spreading effective instructional/ leadership practices

through the development of portable, competency-based, on-demand PD. Many leaders and states see the potential MCs offer and are incorporating them into state education policy. With the benefits MCs afford educators, PD has potential to become personalized, authentic, and delivered in novel ways. Although opportunities are numerous, this remains a new innovation that will require continued monitoring, evaluation, and research. None-the-less, the potential of MCs is drawing interest from industry leaders, non-for-profits, and educational organizations.

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Engagement and learning,
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