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## NC Feasibility Study Report to the North Carolina Partnership for Micro-Credentials

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Report prepared for



# EXECUTIVE SUMMARY

The NC Partnership for MCs commissioned RTI International to conduct a feasibility study of their mission, vision and goals given the state's context and current system for teacher professional learning. We interviewed 43 individuals representing various sectors of NC's public education system, reviewed documents and websites, and integrated findings from NC focus groups and the national scan conducted by New America. Here is a summary of what we found:

- **The NC public school system serves a diverse set of communities, a high proportion of which are low-wealth and/ or rural.** As of 2019, NC had the 9<sup>th</sup> highest proportion of low-wealth students in the U.S. Schools serving low-wealth communities have fewer fully licensed teachers, fewer teachers with advanced degrees, fewer National Board Certified teachers, more lateral-entry teachers and more early career teachers, all of which have been shown on average to be less effective in improving student achievement. Educational inequities are the focus of the ongoing legal case, known as Leandro, which is central to the state's education policymaking. With a Court mandate to implement wide-scale infrastructure for teacher professional learning (PL), the State Board of Education has outlined an 8-year action plan, which includes improvements for NC's teacher professional learning (PL) system.
- **Interviews and focus groups indicate an appetite for MCs for teacher PL.** All agreed that teacher PL focused on acquired competencies instead of 'seat time' aligned with how humans learn and provided better evidence for decision-making about teacher advancement and pay. Other cited benefits included personalized, flexible learning better aligned with teachers' needs and schedules. MCs could also highlight pathways for ongoing learning via stacks, which sequence skills from more novice to advanced.
- **Data also revealed reservations about integrating MCs into teacher PL.** Some of those concerns reflected a misunderstanding of MCs, equating them with digital badges that were seen as "gimmicky" and having little connection to student learning. Others were concerned about the lack of PL structures needed for effective MC implementation, including sufficient and protected time for teachers to complete them and incentive to do so. A consistent concern was about how the needed competencies would be determined and by whom. To 'move the needle' on teacher effectiveness, MCs would need to focus on competencies that impact student learning.
- **NC has multiple efforts focused on the use of MCs for teacher PL from which the NC Partnership for MCs could learn.** These include work with Universities and non-profits, as well as the Department of Public Instruction. The state has offered Digital Learning Initiative grants since 2017-18 to develop personalized teacher PL, with an emphasis on MCs. As of Round 2 (2018-19), the state had awarded 23 projects focused on MCs across all 8 regions, to 20 districts. MCs are conceived of and used in different ways,

underscoring the need for standardization and possibly a typology of MCs to define structures and implementation. Lack of quality standards for MCs reduces their portability and credibility. Several districts are partnering with DPI to streamline work on MCs to offer to districts statewide, which could serve as a useful resource for enabling the NC Partnership for MCs vision.

- **Findings from this study highlight several critical practice, policy, and funding shifts for NC to help ensure effective implementation of MCs.** The state needs a comprehensive, strategic, and equitable system of PL that guides and supports personalized district implementation. There are existing helpful frameworks that could be used to guide the development of such a system (e.g., Crow & Pipkin, 2017). A network of educators to support teacher PL and MC implementation across the state is a critical need. Another critical need is a shift from a time-based to a competency-based system of learning for teachers. As long as CEUs are the currency for teachers, it will be difficult to make this shift. Creating mechanisms and structures for recognizing MCs beyond CEUs, e.g., through stipends and career advancement, could help. MC pilots in NC districts could help to inform how to structure incentives for earning MCs. Additionally, the state will need structures for overseeing the quality of MCs and an approving agency with credibility among educators and deep knowledge of their work. This will support the portability and value of MCs. In NC, the largest source of funding for public education is the state. It is important to explore other sources to sustain this form of teacher PL beyond shifts in priorities and leadership that result from a state funded model.
- **Study findings suggest measures for rolling out a statewide system of MCs for professional learning:**
  - A. Start with WHY.** The science of change indicates that people first need to understand why the change is needed, and why a change strategy was chosen if they are going to implement it effectively. Each district will need their "why" for taking on MCs for educator learning and growth.
  - B. Ensure a clear implementation plan.** Implementation science and the change management literature emphasize the need for clear roles and responsibilities and action steps for effective implementation. Without such a plan, implementers feel directionless and implementation can 'stall out.' This applies at the state and local (district, school) levels.
  - C. Tie to existing priorities.** Implementation science and the change management literature point to the importance of tying new initiatives with existing priorities and work in order to justify and align resources and efforts. This applies at the state and local (district, school) levels.
  - D. Align with SBE's 8-year plan.** The SBE's plan is mandated by the Court and has dedicated funding (\$2.4M for FY21). Show how MCs can support and enhance the work.
  - E. Align with COVID-19 needs.** The most pressing need in public education in NC and the nation is how to help teachers shift to effective virtual teaching and learning. MCs could be very helpful here.
  - F. Pilot test and externally evaluate.** Start small, carry out iterations within a continuous learning cycle, implementing a useful framework (e.g., Guskey's) for evaluating PD. An external evaluator will add credibility and accountability.

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*"I think micro-credentialing would model continuous learning and give teachers a feeling of empowerment and the ability to see growth in their development."*

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*"Teachers would finally feel as though they've been seen as the professionals that they are."*

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## I. Introduction

In 2014, digiLEARN was founded by former NC Governor Bev Perdue to work toward a future-defining educational system focused on digital teaching and learning that increases personal learning options for students and expands instructional opportunities for teachers and instructors. As part of its mission, digiLEARN partnered with the NC State Board of Education to form the NC Partnership for Micro-credentials, representing key stakeholders from across the state and the nation. The partnership led by digiLEARN is focused on developing a **state-recognized system of competency-based micro-credentials (MCs)** that promotes and is integrated with a **high-quality system of teacher professional learning**. Within this professional learning system, MCs would be used to encourage and support the expansion of teachers' skills and knowledge to improve achievement and outcomes for all students.

### Partnership Vision

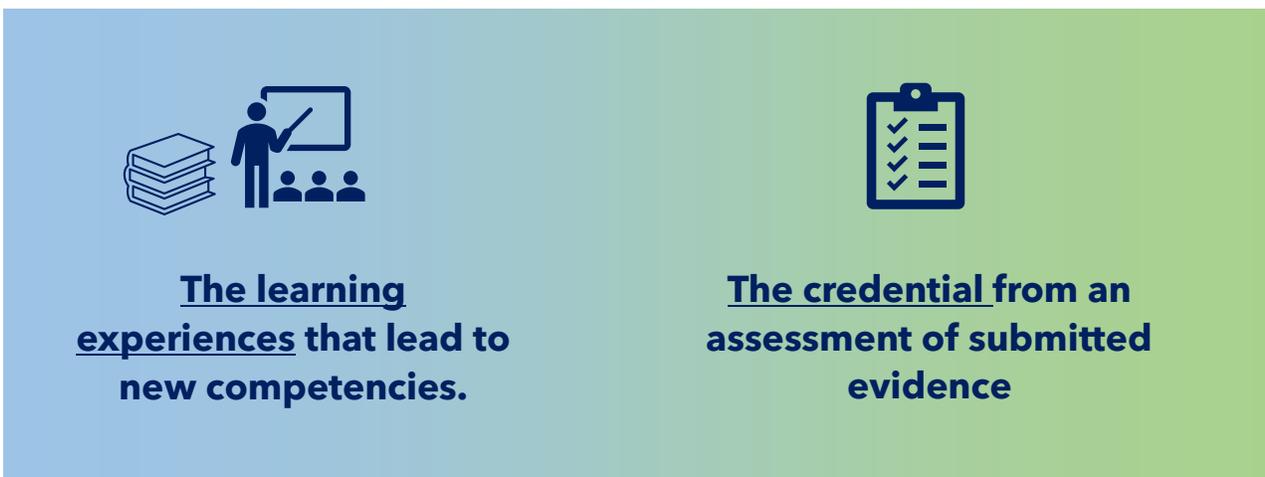
*"Imagine a **system of professional learning for all teachers** aligned with high quality standards that provides **personalized professional learning opportunities in multiple formats, times and ways**. Opportunities based on the skills, knowledge, and competencies each teacher needs to improve his or her practice so that every student can achieve at his or her maximum potential. A system that has the capacity to assess and recognize the acquisition, and demonstration of each teacher's skills, knowledge and competencies so they can advance in their career, **be acknowledged and rewarded as professionals** across schools, districts and the country".*

The goals for this work are to have model standards for educator MCs, criteria for agencies certifying educator MCs, and model policy for NC and other states for educator MCs.

What is a micro-credential? The field defines MCs as **the recognition of the acquisition of a defined skill (e.g., providing effective instructional coaching feedback to peers) through the demonstration of evidence aligned with a valid rubric.**<sup>1</sup>

Relevant to this NC feasibility study, the term is not understood or defined in the same way across the state. People commonly refer to an MC simultaneously as the **digital badge** representing an acquired skill and the **learning content** that supported the acquisition of the skill. Exhibit 1 differentiates the learning resources and content (on the left) from the recognition of the acquired skill (on the right). The term micro-credential applies to the right (credential) side, while acknowledging that the quality of the learning resources is critical for supporting teachers in acquiring the desired competency.

#### Exhibit 1. Defining a micro-credential



Additionally, it is important to clarify what is meant by an effective system of professional learning for teachers. In 2011, NC's State Board of Education adopted Learning Forward's standards for professional learning. Here, professional learning (PL) is defined as the continuous, sustained, and focused engagement of educators in learning to refine, expand, and improve their knowledge, skills, dispositions, and practices.<sup>2</sup> The purpose of PL is to improve student learning, achievement, and performance. To achieve this purpose, education systems need a PL system that is structured, strategic, and comprehensive. **Most districts and states have PL systems in place, but few are comprehensive.**<sup>3</sup> They are often a fragmented mix of courses and

programs that emerge in response to new opportunities and initiatives, or as needs arise. A comprehensive system of PL generates an infrastructure in which there is a state-level framework for the design and development of PL systems, and local districts or school systems determine how PL happens in their schools. This infrastructure supports continuous learning from teacher preparation, recruitment, induction, and throughout the career. It is linked to other systems that support educator development and student learning and success, such as licensure, human capital management, data and assessment, school improvement, and others.<sup>4</sup> [The NC Partnership for MC's vision for the use of micro-credentials to enhance and even transform teacher PL in NC is rooted in a comprehensive, statewide system of PL.](#)

### [Evaluating the landscape in NC for statewide system of MCs](#)

[This report addresses the feasibility of the NC Partnership for MC's mission, vision and goals given the state's current system for PL and the context in which it is embedded.](#) To generate this report, we conducted a Feasibility Study in which we interviewed 43 individuals representing various sectors of NC's public education system, and reviewed a wide array of legal, policy, and research documents and websites focused on NC public education (see Section II). To hear from teachers directly, the NC Partnership for MCs commissioned focus groups conducted by RTI International. Results from those focus groups also informed this Feasibility Study report. A list of interviewees, their titles, and the topics on which they provided information is in the Appendix C.

Along with the NC feasibility study, the NC Partnership for MCs commissioned a national scan of MC practices and policies, conducted by New America. [The national research report by New America should be used in conjunction with this NC feasibility study report.](#)

### [The NC context for public education](#)

When considering a statewide system of MCs, it is important to consider the overall context of the public education system in NC for potential supports as well as challenges and barriers. The following highlights a few broad contextual factors about the NC public education system that are relevant to the NC Partnership for MCs' vision of teacher PL in the state.

As part of the ongoing Leandro case in NC around educational equity in its public schools, the state's 1997 Supreme Court affirmed that every child in the state has a constitutionally guaranteed right to a "sound basic education." The Court's ruling called for constitutional compliance for ensuring (1) effective teachers in all

classrooms, (2) effective principals in all schools, and (3) “adequate resources” to do so. WestEd was hired as an independent consultant to recommend ways for the state to comply with the Leandro rulings. The resulting report outlined 8 critical needs, one of which was to [provide a qualified, well-prepared, and diverse teaching staff in every school](#).<sup>5</sup> For high-quality teaching to be in place, well-prepared teachers need to work under teaching and learning conditions that enable them to teach effectively and grow professionally. And these effective and well-supported teachers need to stay long enough in their teaching positions to produce strong outcomes for students, particularly in high-poverty schools. [NC is above the national average in proportion of high-needs students](#): In 2019, 53% of NC K-12 students were eligible for free lunch—the 9th highest in the country.<sup>6</sup> Related to the teaching profession, [NC’s high-poverty schools have fewer fully licensed teachers, fewer teachers with advanced degrees, fewer National Board Certified teachers, more lateral-entry teachers and more early career teachers](#), all of which have been shown on average to be less effective in improving student achievement.<sup>7</sup> Improving teacher PL has the potential to reduce and hopefully erase these inequities, and [there may be a role for MCs here](#).

Relatedly, [NC districts are highly variable with respect to the communities they serve](#), which creates wide variability in need for support and services from the state’s Department of Public Instruction (DPI). There are 49 districts with < 4999 students and 12 with > 25,000 students<sup>8</sup> and 80% of the state’s 100 districts are rural. [Rural schools in NC serve a large proportion of low-wealth communities: 62% of students qualify for free and reduced lunch](#).<sup>9</sup> As interviewees for this report noted, a statewide system of teacher PL has to apply across the wide diversity of districts in NC and their unique needs, including issues of equal access to resources and supports for teacher PL. Research in NC and interviews for this feasibility study reflect that unequal access to teacher PL opportunities and resources remains a problem in NC, particularly for districts serving low income communities and small rural areas.<sup>10</sup>

Funding teacher PL is another relevant contextual factor for the NC Partnership MC vision. [NC lacks spending flexibility at the district level, which is an obstacle to aligning funding with student needs](#).<sup>11</sup> Funds are restricted to specific uses and cannot be transferred; therefore, district leaders are limited in their ability to make allocation decisions for resources. Interviews for this report indicated that districts are struggling to identify funds for supporting teacher PL, and most must “get creative” in how they reallocate funds, when they can. [Moreover, the state has experienced significant budget cuts for over a decade that have had a negative consequence on teacher quality and retention](#).<sup>12</sup> For example, the Department of Public Instruction experienced over \$20M in funding reductions from 2009 – 2016<sup>13</sup> leading to staff layoffs, which impacted supports to low-performing schools. In 2008-09, spending per student on teacher professional development and mentor pay was \$9.78 and \$8.71, respectively. In 2018-19, there were no funds for either.<sup>14</sup> However, funding for teacher PL may be changing in NC: for FY 2019-20, the governor’s budget included \$7.7M to support professional development for teachers and school leaders, expand

pilot programs for teacher leadership roles and career pathways, and fund National Board for Professional Teaching Standards certification for NC teachers.<sup>15</sup>

In NC, [the state plays the most critical role in determining the level and distribution of funding for K-12 education](#).<sup>16</sup> NC's public education system receives a significantly higher proportion of funding from state-level appropriations than in other states. Implications for teacher PL and the NC Partnership's vision for MCs may include the expectation from districts that funding for training and PL will follow state-level initiatives. If funds are not made available, districts will view the initiative as an 'unfunded mandate' from the state, which will essentially 'kill' the initiative. NC has experienced significant budget cuts in spending for teacher PL over the years, with a negative impact on teaching working conditions, effective teacher learning and development, and on teacher recruitment and retention.<sup>17, 18</sup> As a result, [the Leandro case is largely about revising the state funding model](#) to provide adequate, efficient, and equitable resources aligned to student needs in every school and district.<sup>19</sup> If state funding is not set aside for a MC initiative, it has a small likelihood of success in NC.

### Implications for the NC Partnership for MCs' vision

NC is a state with an ongoing legal case focused on equitable education for all students and a mandate to have an effective teacher in every classroom. That mandate requires teachers to work in conditions that support their development and growth, while hampered by inadequate state spending, high poverty across the state, high variability across districts in terms of contexts and conditions, and inequities of resources and access. Research in NC indicates that the state has a disproportionate number of teachers who are less qualified and less effective working with students in under-resourced schools and communities. A statewide teacher professional learning system that fosters high quality, personalized learning focused on the immediate needs of teachers and their students, that requires teachers to demonstrate needed competencies as a result of their learning, and that can be offered and assessed online, has high potential for addressing these inequities in teacher quality and effectiveness across the state.

## II. Why should NC consider MCs?

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*"The state cannot achieve the goal of a well-prepared, qualified, and effective teacher in every classroom without ensuring that teachers have high-quality, ongoing professional learning opportunities." <sup>20</sup> -- The Honorable W. David Lee, NC Superior Court Judge, January 2020*

Effective professional learning (PL) for teachers is a key component of teacher effectiveness and retention as well as student learning and achievement.<sup>21</sup> Effective PL treats teachers as professionals. It enables them to meet high professional standards through productive feedback and evaluation as well as shared problem solving, where teachers are trusted to make sound decisions and are involved in decision-making, vs. a 'top-down' approach. Perhaps most importantly, effective PL develops **collective efficacy, which is more powerful than individual practice**: teachers need to know what their colleagues are doing in teaching and assessment, develop shared practices, and develop a shared sense of efficacy (i.e. a belief that they can help students succeed).

In 2011, NC's State Board of Education adopted the Learning Forward Standards for teacher PL statewide.<sup>22</sup> Figure 1 shows how a system of MCs, designed effectively, could align with these standards.

In a study using 10 years of test score and survey data in an urban district in NC, researchers found that teachers working in schools with strong professional environments improved their effectiveness over time by **38% more** than colleagues in schools with weak professional environments.<sup>18</sup> The researchers found that strong environments include, among other things, effective PL, peer collaboration, and meaningful feedback. Features of effective PL include being collaborative, focused on practice, readily available, useful, and aligned with school improvement plans.

***Learning Forward Standard***

**How a PL system using MCs could align...**

<p><i>Learning Communities committed to continuous improvement, collective responsibility, and goal alignment</i></p>	<p>Collaborative teams pursue MCs together, provide each other support and feedback (e.g., NEA, Participate.com approaches), and select competencies based on school and district goals. Additionally, MCs could be offered to support teachers in developing collaboration skills essential to effective learning communities (e.g., communication, facilitation, conflict resolution, etc.)<sup>23</sup> Release time for collaborative teams is necessary for effective learning communities to have impact.</p>
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*Learning Forward Standard*

How a PL system using MCs could align...

<p><i>Resources for educator learning that are prioritized, monitored, and coordinated</i></p>	<p>MCs are intentionally chosen based on a pathway of PL and individual growth needs and goals, documented within each teacher’s PLP and aligned with school and district goals. Districts and the state provide resources including dedicated learning time and PL opportunities to obtain the required competencies aligned to student learning needs.</p>
<p><i>Learning Designs that integrate an understanding of how humans learn</i></p>	<p>MCs provide hands-on, active learning in a collaborative setting, driven by practice needs, with ongoing feedback and support from a credible source. MCs support personalized learning and choice, which is critical to this standard.</p>
<p><i>Outcomes that are aligned with teaching and student curriculum standards</i></p>	<p>Teachers should select MCs that are intentionally aligned with the district’s identified student learning priorities, which are used to determine teachers’ PLPs. Without this tight alignment, students aren’t likely to benefit.<sup>24</sup></p>
<p><i>Leadership that develops capacity, advocates, and creates support systems for professional learning</i></p>	<p>MCs designed to help support leaders in creating effective supports for PL, including developing understanding of MCs and their role in a PL system. MCs that customize teacher learning to acquire leadership competencies they seek can help to meet this standard.</p>
<p><i>Data from students, educators, and systems to plan, assess, and evaluate professional learning</i></p>	<p>Build in a system of monitoring and evaluation that assesses and documents the impact of MCs on teachers and students; this will allow the state and districts to track the effectiveness of the MC approach to teacher PL. Perhaps apply <a href="#">Thomas Guskey’s framework</a> for PD impact on teachers and students. Additionally, teachers should be encouraged to pursue MCs that are aligned with identified student learning needs and gaps in educator performance.<sup>25</sup></p>
<p><i>Implementation that applies research on change and focuses on sustaining change long-term</i></p>	<p>Apply findings from New America national research and this NC feasibility study report regarding how to implement MCs so they are effectively used to enhance teacher PL and development. MCs offer flexibility to personalize learning, obtain feedback, and apply learning in the classroom, all of which are evidence-based practices of effective PL.</p>

Despite the statewide adoption of the Learning Forward Standards, data from our interviews and document reviews indicate that PL opportunities vary widely in quality and resources across the state. From those data, a picture of the state of the teaching profession in NC emerges that has implications for a statewide system of *effective* PL in which MCs would be integrated. As summarized in the Court’s Consent Order of January 2020 related to the Leandro case:

*Access to, and the quality of, professional learning opportunities vary across schools and districts, and state-level efforts to support teacher growth and development are inadequate and inequitable. The once extensive infrastructure and funding for professional learning in North Carolina has been greatly reduced. There has been a significant decrease in funding and support for professional learning for teachers over the last decade. This has resulted in a reduced capacity to provide adequate professional development for teachers in recent years, especially in low-wealth districts. Low-wealth districts especially have few resources to find substitute teachers so that teachers can attend any professional development sessions that are provided, and they have limited money to pay for teachers’ time outside of school hours for travel to conferences ... North Carolina must implement wide-scale infrastructure for professional learning at the State, district, and school levels (p. 21).<sup>26</sup>*

Data from NC’s most recent (2018) Teacher Working Conditions survey, collected every 2 years, indicates the following conditions that impact the state’s system of teacher PL,<sup>27</sup> which have implications for the NC Partnership for MC’s vision:

- **Lack of sufficient PL resources and ongoing opportunities to collaborate:** Across the state, **only 20%** of North Carolina’s teachers strongly agreed that there were sufficient PD resources and ongoing opportunities for teachers collaborate to refine teaching practices – both important characteristics of high-quality learning environments. Interviewees for the feasibility study indicated that the state no longer funds PD days for teachers, with detrimental effect on the quality of PL opportunities and reducing the necessary protected time for PD, which research indicates is critical for PD to have an impact on practice.<sup>28</sup> A recommendation from the Leandro Report is for the state to bring back sufficient funding for teacher PL.
- **Professional development (PD) is often regarded as ‘top down’ and disconnected from what teachers need:** When PD is viewed as being disconnected from teachers’ daily work and their students’ learning needs, teachers feel as if they are not viewed as professionals. As one teacher in our NC focus groups reported about how PD decisions were made,

*"I have absolutely no idea. Sometimes they do surveys, like in the time since COVID-19, because there have been so many technology concerns from educators. Otherwise though, I wonder if they have talked to any teachers at all about this."*

The NC Partnership for MC's vision focuses on [treating teachers as professionals and fostering their participation in decision-making about their own PL needs and resources for meeting them](#). An effective system of MCs would involve teacher "voice and choice" in determining the needed competencies and resources to acquire them for their own professional growth.

- **Lack of sufficient supports for teachers in small, rural schools:** Teachers in these schools generally have no colleagues nearby who teach the same subject and grade level. They end up feeling isolated and reinventing many lessons by themselves. For small rural schools in NC, the "districts do not appear to have plans to systematically incorporate [teacher-located] resources as part of a professional development strategy to address the needs teachers have."<sup>29</sup> [MCs can be helpful here](#): offered digitally, they can provide an online community of learning as well as content that might not be available locally. MCs also offer the opportunity for isolated teachers to receive feedback on their practice via review of their submitted evidence.
- **Lack of sufficient supports for districts to meet the state requirement for 3-year induction programs:** Of the approximately 15,000 teachers in the state with less than three years of experience, only 1,000 (< 7%) are being supported by the state's formal mentoring program (i.e., the New Teacher Project). The state requires all beginning teachers to participate in a 3-year induction program; however, only \$2.2 million is allocated for the state program. As a result, districts are left to pay for and create their own mentoring programs.<sup>30</sup> [MCs can be helpful here](#) for supporting the development of mentors and coaches for supporting new teachers.
- **More inclusive and comprehensive approaches are needed for developing teacher leaders to extend expertise:** Teachers in NC are seeking to lead in ways where they serve as resources for each other and develop their own PL, and in some districts, they are doing so. In NC *"data suggest the importance of developing more inclusive and comprehensive approaches to teacher-leader development in order to accelerate the spread of teaching expertise and collective efficacy among more classroom practitioners...PD, led by more teachers, and the time for PD, support collective efficacy, which leads to higher retention rates."*<sup>31</sup> This is an area where [MCs could be useful](#) as well. MCs aligned with competencies needed for teacher leadership,

including how to lead and coach teachers, could help to accelerate the spread of teaching expertise. Interviewees for this NC feasibility study suggested that teachers in these roles should receive stipends for demonstrating the necessary competencies to fulfill these teacher leader roles.

Our interviews and focus groups indicate that in general, stakeholders from all sectors of NC’s public education system are supportive of MCs as part of a statewide, effective system of teacher PL. Data from the NC focus groups indicate that teachers want PL that is teacher led; driven by teachers’ needs for their own classrooms; is hands-on (i.e. active learning) and uses modeling so teachers see how it looks and how it would apply to their classroom; has coaching/mentoring as follow up; and has a community of practice for support and questions. Interviewees and focus group participants also identified what they considered to be important features of MCs that could benefit teachers in NC, which include:

Feature	Sample quote/description
Competency- vs. time-based	<ul style="list-style-type: none"> <li>• If the expected competencies are aligned with improving student outcomes, MCs would be a vast improvement over the current system; currently, we don’t know what teachers are getting out of their PD, only how much time was spent.</li> <li>• Merit will be based on competencies, not on time spent in seats, in programs, and/or in the profession.</li> <li>• The state doesn’t track what teachers are learning--districts track earned CEUs, which say nothing about what was learned. MCs would help track what teachers are learning and measure the impact of teacher PL.</li> </ul>
Personalized learning for teachers	<ul style="list-style-type: none"> <li>• If truly competency-based, teachers can start at their level of readiness; some may skip certain steps or resources because they have already obtained the required competency; time spent on PL isn’t relevant.</li> <li>• Even with mandated competencies from the state or district, the learning can be personalized by incorporating what the teacher already knows and is able to do; everyone doesn’t have to start in the same place.</li> </ul>
Offered digitally, with flexibility for teachers’ learning	<ul style="list-style-type: none"> <li>• MCs are offered digitally, which is especially important during COVID;</li> <li>• The state is focused on digital teaching and learning, and MCs align with those standards and priorities.</li> <li>• Because MCs are offered digitally, learning can take place anytime, anywhere and can be self-paced. This will help teachers to attain a healthier work-life balance.</li> <li>• MC can help ‘level the playing field’ for schools and districts with fewer resources: if offered online, anyone can access them, and isolated teachers in rural counties can connect with educators across the state for pursuing MCs and receiving feedback and support.</li> </ul>

Feature	Sample quote/description
Resource agnostic	<ul style="list-style-type: none"> <li>• MCs are focused on the outcome—the acquired knowledge, skills, dispositions, abilities—not how they were obtained; as long as you can demonstrate the required competencies, it shouldn't matter how you acquired them, whether it was via a course, webinar, etc.</li> </ul>
Documents specific knowledge, skills, abilities, dispositions for making decisions about roles and pay	<ul style="list-style-type: none"> <li>• MCs provide objective evidence for who should be called on to lead specific PL in a school or district, and who should be appointed in advanced roles vs. arbitrary criteria like seniority and who you know. This could also apply to making compensation decisions including differential salaries or pay based on demonstrated competencies.</li> <li>• Digital badges can be used to signify a set of acquired competencies to peers, administration, and others; Receiving recognition for one's accomplishments helps to motivate people.</li> </ul>
Highlights a pathway for continued learning	<ul style="list-style-type: none"> <li>• MCs often offered in 'stacks' which build on sets of knowledge, skills, abilities, dispositions and lay out a pathway from more novice to more advanced levels (e.g., BloomBoard's 'honeycomb' approach to PL). In this way, MCs could help to reinforce pathways of PL for teachers in the state, which will help to structure and support an effective system of PL statewide.</li> </ul>
Aligns with how we expect students to learn	<ul style="list-style-type: none"> <li>• NC is becoming more focused on credentialing to signify skills for the labor market; this should apply equally to educators.</li> <li>• Education systems across the nation are focused on competency-based learning for students, which aligns with learning science; that should apply equally to educator learning.</li> </ul>

The appetite in NC for MCs appeared to be primarily for their focus on demonstrating specific competencies as the outcome of PL; their suitability for personalized, teacher-driven learning; and their delivery online, which extends and equalizes PL opportunities for teachers across the state. However, there were concerns about MCs shared by interviewees and focus groups, including:

- **The term 'micro-credential' is "loaded:"** Misconceptions about MCs often focus on the outcome as a 'gimmicky sticker or badge' vs. a rigorous demonstration of acquired competencies that are valued for their impact on student outcomes. This concern underscores the need for a clear communication plan and common understanding of MCs and their role in enhancing teacher PL.

- **This is a passing fad:** There is wariness on the part of educators in the state about adding another approach to what is viewed as an ineffective system of teacher PL. They have seen other priorities come and go and believe “this too shall pass.” What will make a system of MCs “stick” and move the needle on teaching effectiveness statewide, as other approaches have promised? This concern highlights the need to focus on the ‘active ingredients’ of MCs, i.e., the evidence-based features of this approach to teacher PL, and ensuring those critical features are embedded within this MC system.<sup>32</sup>
- **It’s just another requirement mandated from the ‘top down,’ and has nothing to do with what teachers need.** Interviewees were concerned the state would mandate MCs and about the incentives to pursue them. The prevailing approach to PL is to require specific content and CEUs (Continuing Education Units) that often do not appear to be aligned with teachers’ and their students’ specific needs. Thus, PL is perceived as a poor use of their already limited time. The promise of an effective MC system is that it can be personalized to teachers’ needs, focusing on specific competencies they need and want to pursue to improve their students’ outcomes.
- **If MCs are not tied to something valued by teachers, e.g., licensure or pay, this approach to PL is not sustainable.** Repeatedly, interviewees noted that the incentives to pursue MCs must go beyond teachers’ desire to learn. With so many demands on their time, particularly during the COVID pandemic, and inadequate resources to support them, PL that is not aligned with their needs, and that fails to acknowledge them as professionals is viewed as an extra burden. Time to pursue an MC will need to be balanced with what the teacher will earn as a result. Without sufficient time, supports, and incentives to pursue this type of PL, it is likely that the NC Partnership for MCs’ vision will not materialize as intended.
- **Without a strong system of PL supports for teachers (e.g., coaching and feedback, administrator support, protected time for PL and resources to support teachers), MCs will not ‘move the needle’ on teaching and learning in NC.** This point has been made repeatedly throughout this report. It is not unique to MCs. Any approach to PL must have the needed resources and supports to ensure it is implemented as intended.
- **Determining which competencies teachers need must align with student learning.** A system of MCs to enhance teacher PL will not work if the acquired competencies don’t help teachers to impact student learning. It cannot be a “scattershot” or “menu-driven” approach to selecting MCs—it will have to be strategically aligned with what students need to learn and succeed. Interviewees were concerned about who would own that alignment of needed competencies, given the current lack of structured PL in the state.

## Implications for the NC Partnership for MCs' vision

Along with other states, NC has prioritized personalized digital teaching and learning for all students. This prioritization should extend to educator learning as well. The Leandro case in NC issues a statewide mandate to provide PL opportunities that engage teachers in learning that demonstrably improves practice and contributes to better student outcomes for all students. The combination of an effective structure for teacher PL and an ecosystem of aligned MCs holds promise for teacher professional learning that is personalized, relevant, and results oriented. The State Board of Education's adoption of Learning Forward's Standards for Professional Learning is intended to provide guidance into what a system of effective PL looks like and guide policy and systems that make PL accessible and effective for all teachers.<sup>1</sup> Micro-credentials have a useful place in that system to help the state comply with the Leandro court mandates and help ensure all students have access to a high quality, effective teacher. Their utility will be largely dictated by their alignment with high-value teaching competencies that have an evidence-based impact on student learning and success.

### III. How teachers currently grow and develop in NC

NC Superintendents agree that high quality PL is critical for recruiting, developing, and retaining teachers.<sup>33</sup> Yet there has been significant decrease in funding and support for teacher PL over the past decade in NC.<sup>34</sup> Cuts in funding and capacity at the state level have resulted in limited high-quality PL opportunities for teachers and an inconsistent approach to PL across the state. To support a more consistent statewide approach, the NC State Board of Education (SBE) adopted the Learning Forward Standards for educator PL (see Section II). The SBE explained:

*The standards make explicit that the purpose of professional learning is for educators to develop the knowledge, skills, practices, and dispositions they need to help students perform at higher levels. The standards are not a prescription for how education leaders and public officials should address all the challenges related to improving the performance of educators and their students. Instead, the standards focus on one*

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<sup>1</sup> Learning Forward is in the process of updating these standards; they are currently under review.

[critical issue -- professional learning.](#)<sup>35</sup>

As of 2019, the SBE had not identified actions to implement these PL standards. The Consent Order for Leandro Compliance (January 2020) from NC's Superior Court stated:

*The time has come for the State Defendants to work expeditiously and without delay to take all necessary actions to create and fully implement...a system of teacher development and recruitment that ensures each classroom is staffed with a highly-qualified teacher who is supported with early and ongoing professional learning and provided competitive pay.*<sup>36</sup>

In response to the Consent Order, the State Board of Education (SBE) submitted an action plan in June 2020 outlining immediate steps for Fiscal Year 2021 to address the 7 key areas listed in the order, including a system of teacher development.<sup>37</sup>

These commitments reflect the priorities of the state for FY21 as well as the next 8 years, and signal areas of teacher PL on which the state will focus actions and funding. [It is important to consider these priority areas as potential entry points for leveraging MCs to meet the NC Partnership for MC's goals and objectives.](#) For example, how can MCs support advanced teaching roles? Compensation decisions? Culturally responsive teaching practices?

Our interviews and document reviews indicate several state assets that could support an effective system of teacher PL in NC that includes MCs. The following describes some of these key NC assets and how they might be used for supporting NC Partnership for MC's vision.

## NC's Technology Assets

NC has developed high quality data systems to track student progress and measure effectiveness of teachers, schools and districts; assess staffing and working conditions in schools; analyze impact of programs and legislation; and identify needs that must

## The SBE's FY 2021 Action Plan

To address the requirement of a qualified and well-prepared teacher in every classroom, the SBE dedicated state investments of about \$2.4M and identified the responsible parties for the following action steps:

- A. Expand the NC Teaching Fellows program
- B. Significantly increase the racial/ethnic diversity of NC's teacher workforce and ensure all teachers employ culturally responsive practices
- C. Provide high quality comprehensive mentoring and induction for teachers in their first 3 years of teaching
- D. Implement differentiated staffing models that include advanced teaching roles and additional compensation
- E. Increase educator compensation and create compensation incentives to enable low-wealth districts to attract and retain qualified and well-prepared teachers

be addressed.<sup>38</sup> NCEES, Home Base, and Canvas seem to be useful technology platforms on which the state could build for delivering an integrated system of PL for teachers that could include MCs. Canvas is an LMS used to connect different digital tools in one location. It is integrated within the NCEdCloud and can integrate with Google Apps for Education and MS Office 365. In DPI Canvas, district users can access state created PL, collaborate with other NC educators, and share materials. Canvas features needed capabilities for delivering MCs, including hosting resources for learning, submitting evidence, receiving feedback, and being awarded a badge (if needed). If districts link their instance of Canvas to the state's evaluation system, NCEES, they can also track progress via CEUs earned. Canvas is available statewide and involves a fee—\$3.92/user.<sup>39</sup> As one interviewee indicated, Canvas lends itself well to MCs:

*I've been in almost every major LMS in my career, and Canvas by far is the most end-user friendly, from not just a student learner but from a developer standpoint. So, Canvas had everything we needed. We built a template to where every MC that we offer follows the same 7 steps, from understanding its purpose to the standards and outcomes all the way to submitting their completion form so that they can receive whatever kind of credentials they'll earn through whatever learning they took part in.*  
- Don, Lourcey, Digital Teaching & Learning Coach, Iredell-Statesville School District

Canvas allows educators to self-enroll in courses, including those for earning MCs. If the district links their Canvas instance to NCEES, the HR database for the district can track the earned MCs and if relevant, the earned CEUs. As described by the Director of the Division of Digital Teaching and Learning at DPI:

*... we planned the resources that we had with personalized learning and micro-credentials in mind. So, there's two enterprise systems, Canvas LMS and NCEES, the Educator Evaluation System. We made sure that those both had the technical requirements for earning and curating electronic badges. And that NCEES is also tied into the licensure renewal system that tracks CEUs, and so just to make it easy for the earning and the publishing of those types of things...right now we have 50 digital badges available in our NC Canvas Consortium and OER system in GoOpenNC, which is a third platform... we have the ability for Public School Units to sync with our Educator Evaluation System, NCEES, so that we can track and curate by each educator, what badges they have.* -Vanessa Wrenn, Director, Division of Digital Teaching & Learning

GoOpenNC is another platform provided by DPI in the Division of Digital Teaching and Learning (DTL). It went live in December 2019 and was funded by Digital Learning

Initiative funds. GoOpen is a Open Education Resources platform where DPI and Public School Units can create professional learning hubs and have courses with small badges available inside of that platform based on Open Education Resources developed by educators across the state. DPI currently has 60 courses available between GoOpenNC and the NC Canvas Consortium, and each district can make a copy and choose to offer MCs if they wish. DPI does track the awarding of badges through GoOpenNC using the Badgr digital badge system.

Interviews for this report also indicated some technology issues for the state. The state's HR Management System (HRMS) connects all districts to the state and captures credit hours through Canvas or external sources. This HRMS runs on an old operating system and therefore is not integrated with the other state platforms (Canvas, NCEES). Districts must manually enter data for each teacher's PL activities. The state is working on improvements through a business modernization initiative, but the budget has been put on hold due to COVID, among other priorities. [The current need is to align all platforms that are relevant to teacher PL and make it easy for districts to report PL and evaluation in one place.](#) Once aligned, these platforms could be leveraged to use MCs to document the impact of teacher PL across the state. A natural next step would be to assess student outcomes and evaluate the extent to which this form of teacher PL is having an impact, adding to a virtually non-existent research base on MCs.

[NC is unusual in that it also has a fiber optics network connecting all districts to the internet and all schools and districts in the state,](#) instituted as part of NC's 1:1 initiative in 2010. This is a significant asset for the state as a foundation for equitable access to digital resources. MCNC, through its operation of the North Carolina Research and Education Network (NCREN), provides access to a variety of fiber optic-based services for K-12 schools, community colleges, private and public universities, research and non-profit health care institutions, libraries, public safety offices, and state and local governments across the state of North Carolina.<sup>40</sup> NC's digital connectivity for educators in every region of the state is a significant asset for supporting an equitable system of teacher PL.

## [Organizations supporting teacher professional learning in NC](#)

NC has multiple efforts to support teacher PL across the state that may serve to support the NC Partnership for MCs vision. To effectively leverage that work, it is important to develop structures that avoid a "top-down" approach that hinders much of these efforts, according to our interviewees. And because these programs are tied to state funding, they often experience funding cuts and changing priorities, which also limits their effectiveness. Interviews, document reviews and focus groups for this NC feasibility report indicate that these programs and organizations are generally

considered to be under-resourced by educators in the state and thus struggle to meet their objectives, despite their worthy missions.

Resources identified as having a mission to support teacher PL across the state include the *NC Center for Advancement of Teaching (NCCAT)*, *NC Virtual Public Schools (NCVPS)*, the *Department of Public Instruction (DPI)* and *9 Regional Educational Service Alliances (RESAs)* who provide technical assistance, staff development and professional learning supports to NC educators across the state. Interviews, focus groups, and document reviews for this NC feasibility study indicate that at one time, these statewide systems were known for supporting a strong system of PL in NC for teachers. Much of that work dissolved after Race to The Top (RtTT) funding ended and as state funds shifted to other priorities. Some important work at DPI to support teacher PL in the state involved the development of courses with RtTT funds, now hosted at <http://rt3nc.org/> and maintained by NCVPS. Developed by experts in adult learning, the content is aligned to NC Teaching Standards, NC Digital Teaching and Learning (DTL) Standards, and Learning Forward Standards for professional learning. The courses are tagged by teaching standards and the associated CEUs (Continuing Education Units) are listed.<sup>2</sup> These courses may serve as useful resources for supporting teachers in earning MCs.

Some of these organizations have already been focused on developing and/or supporting a system of MCs for teachers. The CTE Division in DPI is working on competency-based learning for students and has assisted in developing MCs for teachers. The Division of Digital Teaching and Learning (DTL) is also involved in developing MCs, aligned to the DTL Teaching Standards. NCVPS offers online teacher PL including some MCs as well. During the COVID pandemic, NCVPS has worked hard to support educators in delivering effective virtual teaching and learning and has identified this as a critical focal area ripe for an MC approach to PL.

Much of the work on MCs in the state is instigated by the state's Digital Learning Plan. DPI's DTL division developed a set of digital competencies and aligned courses for teachers and administrators, by which they could earn MCs and digital badges. These courses have also been shared with districts. DPI has also developed an Open Professional Learning (OPL) framework and resources for districts to design PL for teachers. Iredell-Statesville is using the framework for developing district MCs through their Digital Learning Initiative grant (see Section IV). Since 2017, the DTL Division at DPI has offered Digital Learning Grants through the state's Digital Learning Initiative to fund districts to support digital teaching and learning strategies, including planning, developing, and/or implementing MCs. The vision was to help districts become

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<sup>2</sup> In NC, teachers are required to earn a total of 8 CEUs or 80 clock hours of professional development for renewal and reinstatement of their license every 5 years. Renewal requirements are based on NC State Board of Education policy.

leaders in digital teaching and learning and demonstrate successful strategies. The grant program assumed if the MCs came from top-down, they would not be as effective, acknowledging the importance of local context and need and that PL should be driven by the educators. The grants focused on developing communities of practice around job-specific skills. The most recent grant awardees were announced for Round 3 in fall 2020. As of Round 2, the state committed about \$5.5M in grants to the awarded districts.

North Carolina has a host of other providers of teacher PL in the state. NC Universities are some of the key providers of teacher PL, and relevant to this report, some are supporting NC teachers in attaining MCs as part of their PL. For example, The Friday Institute at NC State University is focused on competency-based approaches to educator preparation, credentialing and professional development and has developed a series of MCs for teachers, coaches, and administrators. Appalachian State is developing MCs as well and has proposed a study to evaluate their impact on teaching and learning, if funded by the U.S. Department of Education. Other state and national organizations supporting teacher PL in NC include but are not limited to digiLEARN, RTI International, Public Impact's Opportunity Culture, Center for Teaching Quality, BEST NC, and more. A review of the list of partners in the NC Partnership for MCs highlights many of these organizations (see Appendix A of this report).

### Implications for the NC Partnership for MCs' vision

From our interviews and document reviews, it is clear that NC has a multitude of resources and efforts across the state aimed at supporting teacher PL. Although these assets represent pockets of excellence across the state, the work is not consistent and disparities in teacher effectiveness and student outcomes persist, especially for low wealth communities. As noted in Sections I and II, **without a comprehensive and coherent statewide system of PL that integrates these assets to intentionally support a strategically designed statewide PL plan, the impact of this work is diluted to pockets of excellence. At the state level, it does not appear to be 'moving the needle' on teacher effectiveness, as mandated by the state Supreme Court's Leandro ruling.**

Guided by an effective statewide system of PL, the NC Partnership for MCs could leverage the state assets, including existing technology and the work of national, state, and local organizations to implement an effective system of MCs for teacher PL. The system of teacher PL will have to balance the need for a statewide structure with the need for teacher-driven PL. With the proper investment and intentional integration of

teacher PL supports around a common, strategic statewide system, these NC assets could be leveraged for an effective system of MCs.

## IV. Current Work on MCs in NC

North Carolina has a strong history of developing, implementing, and integrating MCs into in-service teacher professional learning and advancement that can help inform the implementation of the NC Partnership for MC's vision. This NC feasibility study report does not capture all implementations across the state; from our interviews, document reviews, and focus groups, we share samples of the work being done in NC on MCs for teachers. In these samples, the purpose for using MCs ranges from informal to formal teacher PL, to career advancement, to earning CEUs toward re-licensure. The use of MCs dictates their structure. For example, the 'grain size' of the competencies depends on their purpose. For informal PL, the focus is often on micro-skills (e.g., how to blog or use Flip Grid) whereas for advanced roles, competencies tend to be broader, e.g., creating and implementing school improvement plans. New Hanover's *Be Awesome* digital badges program focuses on more discrete micro-skills while Iredell-Statesville's *iQuest Micro-credentials* system focuses on broader sets of competencies through stacks of MCs-- a sequenced set of competencies that build on each other--e.g., Developing Stellar Science Lessons.

Another area of variation across the state is the learning resources for earning MCs. *Participate.com*, a for-profit based in NC, has a more open model where the competencies are defined and rewarded, and educators can acquire them however they wish. Other MC programs in the state (e.g., Friday Institute, DPI's Division of Digital Teaching and Learning) provide specific resources, most often courses, for earning the MC. All the models we sampled require educators to provide evidence of a competency, have that evidence reviewed and scored, and receive some level of feedback, ranging from emails to more sustained coaching. Some specify a set of required competencies based on district need, e.g., early literacy practices, while others allow for 'content snacking,' in which teachers identify a personal learning need and aligned PL resources. The following is a summary of some of the MC work across the state.

### NC MC State Policy Workgroup

From 2015-17, DPI convened a *Micro-credentialing and State Policy Workgroup* consisting of DPI staff, district stakeholders, and partner organizations (Winston-Salem Forsyth, Newton-Conover, Surry, CMS, UNC-G, and NCSU-FI) to inform and define a framework for using micro-credentials to transform professional learning for educators. The work resulted in a glossary of terms and a map of districts using MCs at

the time.<sup>3</sup> Interviewees indicated that the work ‘fizzled out’ due to shifting priorities at the state level, and the workgroup was unable to successfully meet all their objectives, including a statewide list of standards for MCs.

### DPI’s Division of DTL

The Division of Digital Teaching and Learning (DTL) was created to support instructional technology in NC public schools. Interviews with DPI and DTL staff indicated that work on MCs started around revisioning teacher recruitment and credentialing as it pertained to teacher retention, while the new DTL standards were adopted. MCs seemed to be a good solution:

*As the Director of Digital Teaching and Learning, our goal is to make sure that the Digital Teaching Learning professional development is meaningful and designed around small job-specific segments, if you will, where the badge will display a specific skill that each educator has and becomes part of their digital profile.* -Vanessa Wrenn

The group initially partnered with BloomBoard and Digital Promise to leverage their suite of educator resources and focused on digital learning competencies for teachers in NC. The work of this group was tied to **General Statute 115 C** regarding CEU requirements for licensure renewal for teachers and administrators:

*...we don't have a separate system where your licensure renewal is based upon micro-credentials. We correlate time, we interface time to the micro-credential. So, for example, if earning a... basic practice to remote instruction, if we anticipate that would take the average educator 12 hours to earn, we would award 1.2 CEUs, and all of that work ... we want them to be able to demonstrate a skill. So, they have to submit artifacts and evidence of their learning as part of that. So that's how we're interfacing the CEU...with the micro-credential system...* -Vanessa Wrenn

### Providers of MCs outside of DPI

There are multiple NC-based as well as external providers of MCs for teacher PL in NC. Universities and non-profits in NC are engaged in this work, as well as national level vendors, e.g., Digital Promise and BloomBoard. One example includes the Friday Institute’s work at NC State, in which they have developed MOOC-Eds that offer MCs to teachers to acquire specific competencies, e.g., effective computer science instruction.<sup>4</sup> The Friday Institute has provided statewide guidance on the use of MCs and was part of the state policy workgroup cited earlier. They are guiding several

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<sup>3</sup> The report also refers to a survey, but our interviewees were not able to access it for this report.

<sup>4</sup> The Friday Institute’s website indicates that educators can earn MCs outside of the MOOC-Eds as well; see <https://www.fi.ncsu.edu/projects/micro-credentialing/>

districts who received DLI grants (see below) and the SE Education Alliance, which is working with 14 districts on developing MCs. Some of these providers are members of the NC Partnership for MCs (see Appendix A).

### DLI grants and the districts that have implemented them

The North Carolina Digital Learning Plan recommends the provision of grants to support the development and dissemination of local innovative digital learning models. The goal is to have effective digital learning practices spread across all North Carolina K-12 public schools. All school districts and charter schools were eligible to apply for the competitive grant program.<sup>41</sup>

*Probably the work that I am most proud of, that we've been able to do out of Digital Teaching and Learning, where I really feel like we have operationalized and created micro-credentials as more of a norm of professional learning, is the work that we've done through our Digital Learning Initiative grants... every school, every LEA and charter was eligible for a grant... And we designed it where they had to incorporate micro-credentialing and personalized professional development as part of their grant work. -Vanessa Wrenn*

The following table summarizes MC efforts of 7 NC districts who have received DLI grants and the SE Education Alliance which provides technical assistance to 14 districts in the region and supports MC-focused teacher PL. A list of districts who have received DLI grants for developing MCs since they were initiated in 2017-18 is in Appendix B.

District	Type of program	Reach	Use of MCs	Content	Costs	MC reviewers/ feedback
New Hanover	“Be Awesome” digital badge program Website: <a href="https://nhcsdtl.wixsite.com/nhcsdtlhome/be-awesome">https://nhcsdtl.wixsite.com/nhcsdtlhome/be-awesome</a>	36 badges 2700 teachers 75% completion rate	Badges used to signify acquisition of circumscribed set of skills around use of specific digital tools; identifies experts in these tools to assist peers.	Teacher-driven: submit ideas and develop resources for the badge via Google forms, using the district’s template	Google docs & Canva <sup>5</sup> both free: used to develop the learning resources & the badge; salaries for 2 district staff to oversee, review & score; teachers develop & submit the learning resources	2 district staff review all; created pass/no pass rubric; email feedback, ask for more evidence; about 50% don’t pass the first time

<sup>5</sup> Canva is a free, online application to develop digital badges, available at [www.canva.com](http://www.canva.com), not be confused with Canvas, one of the state’s LMS platforms.

District	Type of program	Reach	Use of MCs	Content	Costs	MC reviewers/ feedback
Iredell-Statesville	Courses, MCs & stacks of MCs built using Open PL framework for adult learners: use learning map template with set criteria, e.g., research-base, purpose & objectives; earn badges to share on banners. Website: <a href="#">NC</a>	80 MCs, 28 stacks 488 enrolled (including in PL courses) 125 MCs earned	PL & re-certification: earn CEUs (MCs equated with CEUs based on average time to completion)	Existing (e.g., Google Level 1-3) & district-driven, aligned with district plan and NC Teaching Standards	Stipends for developers & reviewers (from DLI grant which just ended; working on sustainability plan); district's use of Canvas for hosting the MCs	Created rubric (pass/ need more info) for 8-10 criteria; evidence includes teacher & student reflections along with videos or work products (based on National Board certification process)
Wake County	Working with Center for Teaching Quality to develop a pilot of MCs	Still in the planning and pilot stage, stalled due to COVID-19; planned launch in Fall 2020	MCs for personalized PL for Instructional Assistants (IAs) & 4 <sup>th</sup> -5 <sup>th</sup> year teachers where PL needs are greatest; can earn CEUs	Focused on specific learning targets aligned with district goals and priorities	Using existing MCs offered by Digital Promise to save development costs & resources	Use of the Digital Promise system for review and feedback (provided by Digital Promise)
Charlotte-Mecklenberg	Phase 1 focused on NC's digital learning competencies; Phase 2 focused on MCs for advanced teacher roles	Phase 1: 56 participants, 22 completers. Phase 2, targeting 300 advanced teachers	Phase 2 focuses on MCs intended as a requirement for applying for advanced teacher roles in the district. Phase 1 was a pilot focused on teacher PL around digital competencies	Phase 1 led to 4 MCs related to 4 specific digital competencies; Phase 2 focused on teacher leader roles, to be launched in Oct.	Primary costs associated with BloomBoard review and assessment of MCs; costs of developing MCs (district staff salaries)	For advanced teacher roles, using BloomBoard as objective external source given the tie to increased salary
Guilford County	MCs for supporting teacher mentors. Website: <a href="https://www.gcsnc.com/Page/65429">https://www.gcsnc.com/Page/65429</a>	5 teachers completed their MCs in a MC pilot through their New Teachers Support department; The district is also partnering with others to develop MCs for districts across the state.	One MC (Mentoring) available through the pilot program, to develop teacher leaders; offers 2 CEUs.	New Teachers Support department developed MC on mentoring competencies	Canvas and Badger to host and award the MCs; district staff to develop the MC, create the template (using BloomBoard's ADDIE process).	District provides reviewers and feedback.

District	Type of program	Reach	Use of MCs	Content	Costs	MC reviewers/feedback
Granville County	No current program, but had a grant-funded MC program in the past	60 teachers included in grant Roughly 500 teachers in the district.	Used to support teacher PL. Paid stipends for each earned MC and translated to CEUs.	Digital Promise's 4Cs (Critical Thinking, Communication, Collaboration, Creativity)	Costs associated with reviewing, scoring and providing feedback; used Digital Promise & Friday Institute MCs, so no tech costs; stipends to teachers (from DLI grant)	Digital Promise and Friday Institute reviewers provided feedback; noted about 50% had to resubmit which built credibility for teachers in the rigor of the review and pride in earning the MC
SE Education Alliance (SEA)	MCs for teacher PL, driven by district content experts, aligned with district needs	14 school districts in the SE Region of the State	To support teacher PL, especially to provide coaching and feedback, aimed at identified regional priorities based on districts' input	Determined by Curriculum & Instruction staff from each district based on district need; leveraged existing MOOCs and MCs from Friday Institute on individual learning differences and social-emotional learning as first roll-out; looking at math and literacy instructional competencies next	Contract with Friday Institute to guide the development of MCs and training of assessors in scoring and providing meaningful feedback; salaries for SEA staff to lead the work	Focused on providing quality feedback to support teacher PL through instructional coaches and mentors.

### The NC MC Group

As a result of the DLI grants, districts planning for and/or implementing MCs met quarterly at the Friday Institute at NC State University. Some of those districts agreed to continue meeting to develop MCs that could be shared statewide, focused on content that they identified to be of general interest. The first MC they've worked on is focused on providing meaningful feedback to peers and to students. The work is being coordinated by the districts and Pamela Batchelor, Digital Learning Systems Consultant at DPI. They refer to themselves as the NC MC Group. Participating districts include Wake County, Guilford County, Winston-Salem/Forsyth, Charlotte-Mecklenberg, and Iredell-Statesville. Their work is ongoing and like the NC Partnership for MCs, is focused on providing a consistent understanding and framework for MCs statewide that would then be localized by districts to meet their specific needs. This group may be an excellent resource for designing and supporting the implementation of the NC Partnership for MCs vision statewide. Several of the NC MC Group members are also members of the Partnership.

## Implications for the NC Partnership for MCs' vision

These examples illustrate pockets of excellence and are generally disconnected from each other. Again, the state needs to coalesce around the use of MCs within the teaching profession if MCs are to offer a form of teacher PL that moves that needle on teacher effectiveness across the state. The state provided DLI grants to help districts focus on developing MCs with the idea that they would personalize their use of MCs to fit the needs in their schools. The focus on supporting districts to develop their own MCs helps to avoid a 'top down' approach to teacher PL which is preferred by educators and districts. However, interviewees also identified unintended consequences of this local approach to PL. For one, [there are inconsistencies in how MCs are understood, defined, and used across the state, including how they are tied to a competency-based system of PL and what that means](#). Numerous interviewees indicated that if MCs are going to serve as the basis for high stakes outcomes, e.g., advanced roles, increased pay, they need to be standardized, rigorous, and respected, citing National Board certification as a model. On the other hand, MCs used to enhance targeted micro-skills (e.g., 'upskilling') such as how to use Flip Grid, might not require the same level of rigor and oversight, e.g., the use of digital badges in New Hanover and Participate.com's model for informal teacher PL. For NC Partnership for MC's vision of MCs to have a chance of success, evidence suggests [there will need to be standardization regarding the following features and structures of MCs](#)<sup>42</sup>:

- **How MCs are conceived and defined:** The national research report by New America defines micro-credentials as the certification of possessing a discrete skill or competency the teacher has demonstrated through submission of evidence relative to a validated rubric. It is important to have a statewide definition that separates the learning resources from the earned credential. Additionally, it is important to differentiate micro-credentials from digital badges.
- **The appropriate 'grain size' of MCs:** Should MCs target micro-skills for 'just in time' PL to meet a specific classroom need? Should they target a broader set of skills aligned to teaching standards, local or state initiatives? Can they serve both? New America's recommendation from their national scan indicate they should be 'right-sized' and 'right-labeled,' covering a 'substantive yet discrete set of skills' that correspond to the demonstrated competence and labeled accurately to describe the competency.

- **Selection of appropriate competencies for MCs:** Should we ensure that only those MCs that focus on competencies with a direct impact on student outcomes, including learning, achievement, and performance, are approved for teacher PL (e.g., focused on competencies related to evidence-based literacy instruction, or social-emotional learning)? Interviewees generally agreed that **MCs will not ‘move the needle’ on teaching and learning, in NC or anywhere else, if they are not focused on the earning of competencies that have been demonstrated to have an impact on student outcomes.** Without that evidence, it is difficult to make a case for allotting resources to their implementation and pursuit.
- **The role and use of MCs to enhance teacher PL:** Should they be used to help teachers attain competencies associated with statewide and/or local priorities (e.g., Digital Teaching Standards, trauma-informed teaching)? Or focus on individual teacher’s needs (e.g., how to use Google Classroom effectively)? Should they be used for re-certification and/or licensure as well? It may be that there will be multiple uses, in which case it may be useful to design a standardized typology and associated structures of MCs for the state. Because their use defines their structure, standardization across the state on how MCs can be used is essential if they are going to be portable, at least within the state.
- **Ensuring commitment to learning vs. compliance with mandated PL:** How will MCs be presented or ‘messed’ to teachers—as state or district mandated PL? As self-selected PL? Perhaps both? Interviewees cautioned against a ‘top-down’ approach to the use of MCs for teacher PL for reasons stated earlier (see Section III). Effective systems of teacher PL include a statewide framework or structure which guides PL while allowing for local adaptations (see Section II).
- **Incentives for earning MCs:** Will they be tied to CEUs, given that CEUs are the ‘currency’ of PL and advancement in NC? Will they be tied to stipends? Some interviewees and New America’s national research suggested that tying them to CEUs will diminish their value and encourage a compliance mindset, while others acknowledged that CEUs are the current currency in NC for licensure and advancement, and thus a major incentive for NC teachers. Tying MCs to CEUs may be a temporary solution if there is movement in NC on eliminating the CEU system. Multiple NC districts have already equated MCs with CEUs, as has DPI. The New America report cautions that doing so is ‘arbitrary’ for the very reason MCs are advantageous: personalized learning. Multiple districts have decided to assign CEUs to MCs based on the average time it takes teachers to earn the MC, and some offer stipends, generally through DLI grant funds.

- **Oversight of content and quality of MCs:** What will be the state’s role, if any? The district’s role? Does NC need an outside organization with credibility among teachers for this role, perhaps at the national level, e.g., the National Board Certification model? Should the determination of content be separate from quality oversight? Interviewees suggested that *if MCs are used for more ‘high stakes’ decision, e.g., as re-certification, eligibility for advanced roles, pay, oversight has to be rigorous and done by a credible source with deep knowledge of the work of teachers.* Along with the National Board, suggestions included national teacher associations such as NSTA, NCTM, NCTE, and the NEA, which offers over 175 MCs to teachers, developed by teachers. <sup>43, 44</sup>
- **Determining required evidence (e.g., which indicators, measures) to show the acquisition of the targeted competencies and rubrics for scoring:** Who determines which indicators to use and the appropriate measures to document acquisition of specific competencies? For example, do videos, teacher and/or student reflections, lesson plans, etc., serve as sufficient and valid evidence of a given competency? Who designs the scoring rubrics so they will be used consistently across reviewers, when assessing submitted evidence? Suggestions from interviewees ranged widely, from the state (i.e. DPI), each district, National Board Certified teachers, the national teacher organizations, and professional organizations that offer MCs, e.g., Digital Promise, BloomBoard, the NEA, the Friday Institute, and so on. *This component of MCs will dictate their credibility among educators and the public as valid credentials of earned competencies, and therefore rigor and quality are critical in this process.*
- **Review and evaluation of evidence for earning and MC:** Who should do the review and scoring of submitted evidence? What will be the process for training reviewers and who would own that process? Some interviewees suggested leveraging NC’s National Board Certified teachers for this work, for their credibility with teachers. Others suggested creating designated state or district level job positions (FTEs) to do this work. Others suggested to save costs, make use of existing vendor’s capabilities for valid reviews, e.g., Digital Promise. *This component of MCs will also dictate their credibility among educators and the public and therefore rigor and quality are critical in this process.*
- **Provision of feedback and coaching related to MCs:** Research is clear that effective teacher PL involves ongoing coaching and feedback to improve practice. How could coaching and ongoing feedback to teachers be built into the MC system to enhance impact on teachers and students? Multiple interviewees suggested a PL system in the state where *all teachers have professional learning plans (PLPs) aligned to their needs, that guide their*

choices of PL opportunities, including MCs.<sup>6</sup> They described a system where each teacher also has an instructional coach or mentor, who tracks their mentees' progress on their PLPs and provides ongoing support and feedback. Currently in NC, similar systems exist for some teachers in some districts. New America's national research report underscored the importance of PLPs combined with ongoing coaching for improving instructional practice.

## V. What practices and policies does NC need to support an effective system of MCs?

Our feasibility study interviews and data from the NC focus groups indicated that **the key driver for adopting and funding a system of effective teacher PL in NC is evidence that the approach to PL has an impact on student learning and success.** There is little point in designing, developing, funding, and implementing a system of teacher PL that fails to improve student outcomes. Yet it is clear that the current system of teacher PL in NC is not meeting the needs of teachers or students throughout the state, despite pockets of excellence. In general, the system of teacher PL in NC is regarded as too top-down, underfunded and under-resourced, and inequitable, which has been a contentious point in the Leandro case.<sup>45</sup> Clearly there needs to be a change, and the Court Consent Order of January 2020 demands one. So, what kinds of policies and practices are needed in NC to support this change? How can a system of MCs help to elevate teacher PL across the state and create the conditions in which teacher learning impacts instructional practice and enhances student learning and success? States are addressing the challenge of providing high-quality, relevant, flexible, and broadly accessible PL experiences for teachers by investigating the use of MCs for teacher professional development. A 2016 AIR report on MCs for teacher PL indicate the following benefits:

*For one, states can more easily offer micro-credentials that are aligned with teaching standards and other state initiatives ... 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.*<sup>46</sup>

Based on our analysis of interviews, document reviews, focus groups, and New America's national research, the following is a set of recommended shifts in current policies and practices in NC for enacting the NC Partnership for MC's vision.

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<sup>6</sup> Several interviewees indicated the NC only requires professional learning plans for beginning teachers and those who are having performance issues.

## A. Practice Shifts: Develop and implement a cohesive statewide system of teacher PL that integrates the strategic use of MCs

- **Develop a statewide structure for teacher PL that guides and supports ‘personalized’ district level implementations.** This recommendation is discussed in detail in Section II of this report. The system of MCs envisioned by the NC Partnership for MCs would be integrated into a larger system of teacher PL. It may be that **critical features of MCs** for teacher PL--i.e., the focus on **demonstrating acquired competencies**, offered digitally to **allow flexibility in learning and provide equitable access** to PL opportunities, and **personalized** to meet the learning needs of each teacher--may help to address shortcomings identified in the state’s existing teacher PL system and guide it toward a more comprehensive, equitable system. New America’s national research report shares the features of effective teacher PD systems (e.g., protect time for PL, reward learning and growth) that should be brought to bear on the types of practice shifts needed to improve the current teacher PL system in NC.

Several interviewees highlighted a critical and missing component of an effective statewide system of PL in NC: the **need for teacher professional development pathways** that identify the needed competencies for specific career phases and roles for teachers (e.g., early career, middle career, advanced roles).<sup>7</sup> The pathways would in turn inform the alignment with needed MCs and help to avoid a “scattershot” or “menu-driven” approach to teacher PL. As one interviewee observed,

*It’s not my experience in most of my conversations around competencies or badging or any of that, that anybody’s attacking the pathways first—it feels like they’re doing it backwards. They’re starting with the competencies, and my personal belief is until someone acknowledges and starts to figure out what those pathways are, it’s going to be a whole lot of work that’s not going to yield quick returns ... we must determine what the appropriate pathways are, of series and sets of competence, because **the competency-based program that simply acquires random bits of competence accomplishes very, very little.***

Another interviewee added,

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<sup>7</sup> One interview indicated the NC has developed learning pathways only for beginning teachers.

*Can there be some system that really takes a comprehensive and cogent approach to teachers' professional growth? It's not just some scattershot, e.g., 'here's a couple of digital learning things I did, and here's a couple of literacy things I did' ... some kind of cohesive plan that a teacher could look at and say, "Okay, I'm really interested in developing in this area. So, I'm going to take all these professional developments that vertically align under that skill and become a real expert in that" ... So in North Carolina, it's basically you're in there for the first three years. You jump through some hoops, and then for the rest of your career, you're just kind of at the same [level], everything's the same. You're not a 4-year teacher, except for salary on the salary scale: a 4-year teacher is not recognized as being more or less skillful than a 30-year teacher. And we can't do that now because we don't have some kind of coherent professional development that would lead to better distinctions among fully licensed teachers. So that's why I'm interested in it [micro-credentials for teachers].*

Another critical observation about the current lack of structure in the PL system in NC focuses on the 'ceiling effect' of PL for teachers in NC:

*... once they hit about year five, somewhere between five and seven years, that's it, they've maxed, and they will stay at that effectiveness level for the rest of their career. And that's just really disheartening. **And that is a failure of professional development.** Why aren't these teachers getting better? And that's just because there's no PD strategy. It's just here's the buffet, go take what you want, instead of having, 'this is what a teacher should be doing at each phase of his or her career, and here's how you get there...'*

- **Build a network of educators to support teacher PL and MCs across the state.** Interviews suggested that an effective system of MCs should leverage some of the stronger work in NC on supporting teacher PL, e.g., via University partnerships, divisions within DPI, non-profits, and the districts themselves, by aligning their work through a network of educators who can support effective teacher PL. This recommendation is consistent with the national research by New America. Specific suggestions from our NC feasibility study for how to build this network across the state include:
  - **Make use of NC's substantial cadre of National Board Certified teachers** to support the various components of an MC system (e.g., developing resources, reviewing and scoring evidence, providing coaching and mentoring) and pay them a stipend for doing so.<sup>47</sup>

- **Create and train statewide cadres of expert mentors and coaches** to facilitate teacher-led PL with colleagues; this could include building on the Advanced Teaching Roles Pilot to create these roles for teachers and compensation models to support them. These mentors and coaches would help teachers to develop a professional learning plan, track progress, and provide supports for pursuing and earning MCs. A system of MCs could be used to support the acquisition of critical competencies for effective mentoring and coaching.
- **Consider using MCs as formative assessment** by training peer graders to score MCs as a PL activity. The Friday Institute has been considering this as a potentially cost-effective way of building a cadre of expert MC reviewers and scorers for districts or the state while contributing to teachers' PL.
- **Develop ways to ensure that the coaching and mentoring is accessed equally** by all districts, including the more poorly resourced and/or remote districts who traditionally have had less access to strong teacher PL supports. MCs can help here by providing virtual mentors and coaching through reviews and feedback to teachers from anywhere across the state who pursue MCs.
- **Make use of existing implementation frameworks for MCs in NC.** New America's national research report outlines critical components of effective MC implementation. Rather than reinvent the wheel, the NC Partnership for MCs could make use of existing models to help ensure that the needed structures and resources are in place, as well as critical policies and practices. For example, [Digital Promise and Learning Forward outline a series of steps, policies and practices for how to integrate MCs into an effective system of teacher PL.](#)<sup>48</sup> This report could serve as a useful and relevant resource for developing systems and structures in NC.

## B. Policy Shifts: Focus on competency vs. time-based PL and teacher-driven vs. top-down systems

- **Shift from a focus on "seat time" to acquired competencies as a measure of teacher learning and growth:** As noted in New America's national research report, K-12 education is experiencing a shift from Carnegie Units or "seat time" to a competency-based learning approach as a measure of learning. In 2017, the Measuring Success through Competency-Based Learning Alliance in NC worked with educators to develop a shared definition of competency-based

education (CBE): As a personalized learning approach, CBE provides a flexible and engaging learning environment in which progression is based on mastery of explicit learning objectives, or competencies, as demonstrated through evidence of student learning, rather than the time spent in a course/topic.<sup>49</sup> Two primary drivers for this approach to teaching and learning are learning science and equity.<sup>50</sup> Competency-based learning emphasizes personalized learning and requires the learner's active role in and ownership of their learning. Additionally, CBE ensures ALL learners' learning needs are met.

Notably, this shift from Carnegie Units to competencies in K-12 education systems has primarily focused on students and not as much on teacher learning. To earn and renew teaching licenses in NC, the teacher must record 8 CEUs or 80 hours of learning time every 5 years. The focus on time as a measure of learning is archaic and ignores the science of how humans learn, as children and as adults. Interviewees for this NC feasibility study and NC focus group participants indicated frustration with and general lack of support for a time-based system of PL, noting that if it is ineffective for students, why would it be effective for teachers? Quotes from educators in the NC focus groups reflect these attitudes about CEUs:

*The CEU is more of a formality...if the topic and training is interesting, and teachers have a choice in what trainings they attend/receive, they are more likely to attend as an active participant. The CEU categories that we have now really serve no purpose. - NC Teacher*

*...[the CEU] is a participation measure rather than a competency/able to do something measure. - NC Teacher*

When interviewed for the NC feasibility study, Tom Tomberlin, Director of District Human Capital at DPI and highly knowledgeable about the state's policies and practices around teacher PL indicated the following:

*[The state has] statutory guidelines for types of learning teachers need to renew their license, but there's no indication of what a CEU means in the statutes. It's under the SBE's purview to modify the definition. We've always imposed the need to equate MCs with time (CEUs) in this state for some reason. If something takes me 10 hours, I get a CEU for it, but if it only takes me an hour, I don't. It assumes the time invested gets you the credit, not the mastery and demonstration of the skill. So, policy change is needed there. There's nothing statutory that prevents us from re-defining what a CEU means as long as the Board approves it.*

- **Provide incentives for teacher PL providers to shift from CEUs to MCs.** PL providers have naturally aligned their offerings to earned CEUs in NC. As long as they remain the ‘currency’ of teacher PL, it will be difficult to shift mindsets to valuing acquired competencies. A focus on MCs should require and incentivize providers to show evidence that their PL produces earned competencies and those competencies are aligned (or even better, linked) to student outcomes. As one interviewee indicated, teacher PL should be *a marketplace in which vendors are required to show evidence that what they offer produces teacher competencies we care about. Even better, those competencies should be linked to student outcomes; otherwise, why would we buy what they’re offering? In such a marketplace, those who don’t deliver on the promised competencies will fall by the wayside.*
- **Institute structures to support and oversee the quality of MCs.** Data from our NC feasibility study and New America’s national research indicate that specific structures are needed to help ensure that the MCs teachers earn are viewed as credible, especially if used for more high stakes decisions like licensure, advanced roles, and merit pay. Interviewees consistently wondered who should “own” this work in NC. As noted in the national research report, there are multiple components of MCs that are part of their implementation, including *developing, assessing, issuing, and recognizing*, each of which may need an “owner,” and not necessarily the same one. Who would oversee the development of MCs? Their assessment? Issuing the MCs? And who would recognize them as valid and for what purposes, e.g., licensure, merit pay, etc.? Most likely the recognizer would be the state and districts for MCs to be regarded as legitimate and portable. Recognition by an organization with credibility among educators could also add legitimacy and portability, including outside of the state, as is the case with National Board certification. Interviewees suggested that separate oversight of the development and issuing of MCs may not be required if the MC system in NC adopts existing MCs from credible organizations, e.g., BloomBoard, Digital Promise, the Friday Institute, the NEA. Several interviewees suggested that a statewide system of MCs ought to leverage ‘economies of scale’ offered through recognized providers to save the substantial costs for development.

Interviewees disagreed on which entity or entities should oversee the assessment of submitted evidence for earning MCs. As noted earlier, some believe a national level organization with credibility among teachers should have oversight of this component of MCs. A commonly cited model was the National Board, while others believed a cadre of teacher leaders could be

trained to do this work, making it local and teacher-driven. The training would involve rigorous work on establishing interrater reliability and ensuring the required evidence was a valid and reliable measure of the competencies of focus. This work would involve paid positions, possibly within a district or across districts that share the position. Another option is to have the MC providers assume the cost of assessing MCs. State funds for teacher PL would pay for the cost of assessment by the MC provider. For example, Digital Promise states that the issuing organization may charge an assessment fee to cover the cost of assessing a MC submission.<sup>51</sup>

- **Institute an approving agency for quality control for MCs.** Relatedly, the state will need policies in place and funding to institute and support an approving agency for quality control of MCs. The approving agency would have to establish standards for evidence and create a way for ensuring those standards are met. There were no clear recommendations from interviewees regarding how to fund this agency and their work; however, most assumed the funding should come from the state. Regarding how the oversight agency might work, it is essential that teachers are involved. One interviewee suggested having master teachers, e.g., National Board Certified, review the key competencies needed to succeed in specified teacher pathways, define what they look like, and review and/or determine what evidence would be required to document the acquisition of these skills. These teachers might help determine how evidence is measured, e.g., through videos, written reflections, lesson plans, and how to score the evidence.

### C. Funding Shifts

- **Create mechanisms and structures for recognizing MCs.** Our feasibility study interviews and NC focus group data indicate, not surprisingly, that recognition, whether financial or professional, incentivizes teacher professional learning. This is not unique to teachers: studies of motivation to perform at high levels indicate that some level of extrinsic rewards involving recognition motivate humans.<sup>52</sup> New America’s national scan and our feasibility study interviews suggest multiple means for recognizing teachers financially and professionally. New America’s report highlights several states with policies for providing stipends, bonuses or pay increases to teachers who earned MCs. If financial rewards are considered in NC, there may need to

#### Examples from other states:

- Oklahoma pays teachers with 5 years of experience and a State Board-approved MC 10% above the prevailing wage for those with non-disabled students, and 7.5% above prevailing wage for Special Education teachers.
- Delaware offers MC bonuses for educators aligned with the state’s Literacy Plan.

be parameters on what types of competencies/MCs would be rewarded financially.<sup>8</sup>

Interviewees varied in their ideas about whether professional recognition, without financial reward, would be sufficient incentive. Programs offering digital badges found that teachers were proud to share their badges with peers. One district ‘gamifies’ teacher PL by offering badges to incentivize them to compete for numbers earned. Several interviewees noted that millennial teachers seemed to be motivated by earning badges.

This aspect of teacher PL—recognition for accomplishments—appeals to the science of motivation. In Daniel Pink’s book *“Drive: The Surprising Truth About What Motivates Us,”* he discusses the use of financial reward in a way that is relevant to how incentives could be used for teachers to earn MCs:

*Of course, the starting point for any discussion of motivation in the workplace is a simple fact of life: People have to earn a living. Salary, contract payments, some benefits, a few perks are what I call “baseline rewards.” If someone’s baseline rewards aren’t adequate or equitable, her focus will be on the unfairness of her situation and the anxiety of her circumstance. You’ll get neither the predictability of extrinsic motivation nor the weirdness of intrinsic motivation. You’ll get very little motivation at all. The best use of money as a motivator is to pay people enough to take the issue of money off the table.<sup>53</sup>*

A separate review of research on the use of incentives to motivate employees concluded:

*Perhaps the most important lesson from the research is that the **effects of the reward depend on the social context in which it is provided.** If the reward is appropriately implemented, it should enhance, rather than undermine, intrinsic motivation – making the incentive effect that much more powerful than if it relies on extrinsic motivation alone. This requires appropriate communication about the importance of the task and the nature of the incentive; specific, meaningful performance goals; appropriate feedback and support from supervisors; selection systems that help sort out those who do not fit the desired culture (and reward strategy) of the organization; and an organizational culture in which incentives are supported by managers and*

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<sup>8</sup> Some interviewees, for example, recommended that the attainment of micro-skills should not warrant financial reward, e.g., how mastering a specific app or optimizing wait time before responding to student questions.

*employees. This discussion serves as a reminder that contextual factors are at least as important to success or failure of reward programs.<sup>54</sup>*

- **Explore other models of funding for supporting teacher PL in NC.** In combination with state funds, which history shows can fluctuate based on shifting priorities in NC, it is important to consider other sources to support an effective system of teacher PL and MCs. What kind of funding model can help to ensure that funding for teacher PL is ongoing and sustainable, and independent of politics? The state is required to ensure equitable funding for public education resources, and therefore, from this perspective it is likely that some level of state funding is necessary. There may be other sources of funds that can expand supports for PL and hopefully in hard to serve areas. An older review (2006) of how districts fund teacher PD indicates a mix of state and federal funds (e.g., Title I), where districts generally have control over how those funds are used. It may be that for a system of MCs, which will need to leverage the state's technology infrastructure, there may be private funding sources from industry and/or non-profits to help support an MC initiative. For example, private funds could help to create Centers of Excellence for teacher PL and MCs. One interviewee suggested a model that would fund the creation of 'MC ecosystems,' following the NC Science, Mathematics, and Technology Education Center model, funded by the Burroughs-Wellcome fund. The ongoing funding from Burroughs-Wellcome has freed the NC SMT Center to sustain initiatives and provide a consistent supports to NC teachers.

The exploration of funding models will involve understanding the costs associated with implementing MCs. Those we interviewed for this study could not provide exact costs for implementing MCs, but they were able to detail the costs to consider. Relevant components of the MC process include development, earning the MC (teacher time and resources spent on acquiring the competency and submitting evidence), assessment, issuing, and recognizing the MC. The Friday Institute at NC State University has been documenting the costs of developing and offering MCs to teachers and highlighted the following costs:

- **Technology costs** are nominal if using an existing LMS (e.g., Canvas); but there are labor costs to upload content, provide tech support, and platform management. Another interviewee indicated that Canvas may not be able to hold massive amounts of content if MCs are to be offered through that system, and therefore there would be costs to either upgrade or replace it.
- **Developing MCs** requires heavy labor hours involving coordinating planning and meetings, iterations, revisions, and developing supporting

materials if needed, and paying developers. This may be an argument for leveraging existing MCs from large providers, e.g., BloomBoard, Digital Promise, NEA, and existing MCs developed at DPI.

- **Assessment/reviews and scoring** of submitted evidence is the heaviest cost: reviews and provision of useful feedback take time, as does training the reviewers to be accurate and consistent in their assessment of the evidence. This component of MCs is the “heavy lift” of an MC initiative. This again may be an argument for using existing MC providers to do this work and paying the price for assessment per teacher.
- **Graphics designs for badges** (free badging systems like Canva exist, but the MC issuer is often required to design how they should look).
- **Administrative overhead** for coordinating reviews, the logistics of tracking submissions and issuing the MCs and/or associated digital badges. If the state decides to go with an existing MC vendor, these costs will be reduced or eliminated.
- **Teacher time** to undertake the professional learning, submit the evidence, and resubmit if necessary, costs districts and the state. If supported by a mentor, those costs must be considered as well.

One interviewee estimated costs of instituting an effective teacher PL system against the costs of teacher attrition in the state:

*...let's assume at least 2 reviewers per district, i.e. about 230 evaluators across the state, evaluating about 20,000 submissions per year, or about 100 per evaluator per year. That seems doable if that's their only function. Additionally, we'd need career pathway advisors/coaches/mentors for teachers to help track individual professional learning plans. Assuming 1 coach per 20 teachers, we'd need about 500 of these positions for the 20,000 teachers in the state. Assuming \$60k/year salary, that would cost about \$30M per year. However, the cost could easily be offset by analysis of teacher mobility and attrition across the state, which is what really costs school districts. Roughly 8,000 teachers leave the state per year. We should weigh the costs of this teacher PL system against the costs to the state for teacher attrition. I will guess that the savings due to implementing MCs would be substantial, assuming they would improve teacher retention [as evidence suggests for effective teacher PL].*

## VI. How do we build a statewide system of MCs to meet the NC Partnership for MC's vision?

A key question driving the interviews for the NC feasibility study was how NC should go about instituting a statewide system of MCs to meet the NC Partnership for MCs vision. It is important to recognize the first steps, taken by the NC Partnership for MCs in doing this work. The partnership is made up of key stakeholders in teacher PL policy across a wide range of relevant sectors. Together they have drawn up a mission, vision, goals, and objectives for this work, shared in the introduction of this report. They have commissioned a national scan to understand how MCs are being implemented elsewhere and lessons learned from those implementations. They have also commissioned this feasibility study to understand the appetite for MCs in NC and how implementation will need to look given the NC context. And they have commissioned focus groups to obtain feedback from key constituents—the educators in NC—as well as define and clarify what is meant by an effective system of MCs and how they might fit into a system of teacher PL. These first steps are well-aligned with principles of implementation science. The following recommendations for ways to move forward, are also drawn from implementation science as well as change management research, and through interviews and focus groups with NC stakeholders.

## A. Start with WHY

Implementation science and the change management literature emphasize that the first step in implementing systemwide change is to have a clear understanding as to why those changes are needed and why specific interventions have been chosen. Best practices in change leadership indicate that for change to “stick,” stakeholders need to be clear and committed to why the change is being made, and what it will look like for them and their daily lives. Interviewees indicated that there must be intentionality around the implementation of MCs in NC. A good example in NC is the work of Wake County and the Center for Teaching Quality to determine whether a system of MCs would meet their teacher PL needs. It took a year of planning and preparation, guided by a clear understanding of why they were undertaking the work.<sup>55</sup> When organizations take on major projects or initiatives, substantial change is often required, e.g., change in processes, job roles, organizational structures, and how staff identify within the organization. Some tasks involved in preparing organizations for change that could be applied to this work include:

- **Create a clear understanding of what an effective system of teacher PL and of MCs means to NC.** What would this ideal “future” state look like? How and to what extent would this shift in culture impact various groups?
- **Unpack the “current” state of teacher PL and determine the structures needed to best support stakeholders as they move through the “transition” state.** What knowledge, skills, and abilities do they need to feel confident in the new “future” state (e.g., use of specific technologies, a clear understanding of

competency-based teacher PL)? How does leadership communicate a valuing of and commitment to this approach to teacher PL?

- **Understand the “why” behind the shift to a more competency-based culture** of teacher PL. What is the reason for this shift? Why should the organization commit to it? How is this approach aligned with the organization’s goals and objectives? What will it help the organization to accomplish? This NC feasibility study report and New America’s national research both provide information to justify a shift to a teacher PL system that incorporates MCs to improve teacher learning and student outcomes. At minimum, the “why” will need to focus on how this approach to PL will positively impact student learning and success.

## **B. Ensure a clear implementation plan so the implementers know their roles and what effective implementation looks like**

A good portion of the interviewees for the NC feasibility study have experience and expertise in implementing large-scale education initiatives, e.g., across districts and/or the state. There was strong agreement that the NC Partnership for MC vision will need a clearly stated and documented strategic plan and set of expectations, so when leadership and priorities change, the work can continue. To avoid a “fire...ready...aim” approach, a clear implementation plan is needed. As one interviewee noted, *priorities at the state level are incredibly diffuse, which prevents things from getting done*. The implementation plan will have to clarify priorities so they are not diffuse. This work for MCs will need clearly stated outputs and outcomes, and a clear definition of what is meant by competency-based PL. Interviews and the national research indicate the lack of a common understanding of MCs, how they support effective teacher learning, and what effective implementation looks like. This step is critical to help avoid widespread confusion as to what the initiative should look like, which results in disparate actions and/or inaction, and dilutes the impact of promising interventions.

The National Implementation Research Network (NIRN) at UNC Chapel Hill has developed the *Hexagon Tool* to assist organizations in understanding how a new or existing program or practice fits into an implementing site’s existing work and context.<sup>56</sup> The Hexagon Tool is based in implementation science, and can be used at any stage of implementation to assess fit and feasibility of interventions. For the NC Partnership for MC purposes, the tool could support districts in integrating MCs into their teacher PL in an intentional, strategic way that improves the likelihood of success. A partnership with NIRN to ensure effective use of the tool could also enhance the

implementation of MCs across the state.<sup>9</sup>

### C. Tie the MC initiative to existing priorities to help ensure commitment

The state has identified and funded several priorities for teacher professional learning: the New Teacher Support Program, Advanced Teaching Roles Pilot Program, and the Digital Learning Initiative. As several interviewees suggested, aligning and piloting the implementation of MCs with one or more of these initiatives will likely give the NC Partnership for MC's vision and goals a better chance of success. Implementation science also indicates that [aligning new initiatives with existing priorities is a critical strategy for success](#).

[A potentially useful place to start in NC may be aligning MCs to advanced teaching roles](#). There are several immediate advantages: (1) MCs are typically offered digitally and could help extend the Advanced Teaching Roles Pilot Program across the state, creating a greater return on investment; (2) MCs could target competencies for mentoring and coaching peers, which would help to develop and grow more teachers in NC, again, giving a greater return on investment; (3) experienced teachers are likely to have a better chance at successfully earning the needed MCs; (4) during the COVID pandemic, it is especially important for these advanced teachers to extend their skills and support to their colleagues and students; and (5) MCs would signal who to select for advanced roles based on skills rather than arbitrary criteria like time or "who knows who." As one interviewee noted:

*...Think of how you can create opportunities within the teaching profession for highly effective teachers, or what we would call master teachers, advanced teachers, to spread their influence over many teachers and more students than they could as a classroom teacher... But we don't have an articulated professional growth plan to support that work. And in the absence of that, what you get when it comes to hiring at the district level is the finger of god approach. I reach down and I tap you, I don't know anything about your qualifications or your skills. I just know I like you...and I'm [appointing] you to this position. If instead you had some system that allowed you to say, "Well, who in our district has demonstrated the skills necessary to do this job?" ... If a school is not thinking about their human capital, and how they can retain and improve the output of that human capital...they're just spinning their wheels. Nothing's going to change.*

Another interviewee observed,

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<sup>9</sup> The Hexagon Tool includes a helpful stakeholder engagement guide, which can be accessed at: [https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/imce/documents/Stakeholder%20Engagement%20Guide\\_10.12.18\\_0.pdf](https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/imce/documents/Stakeholder%20Engagement%20Guide_10.12.18_0.pdf)

*If Advanced Teacher Roles spread across the state and I went from one district to another, I don't have to jump through all their hoops to say I'm a reasonable candidate for their teacher leadership role. I've got this MC that represents this solid research-based set of teacher leadership skills and I didn't just take a class that says I learned them, but I submitted evidence to show that I know how to do them. If we were to do that then the MC might be able to dovetail into future salary supplement opportunities...a teacher who earns a specific MC or set of MCs might be able to access the next tier of salary supplements. The struggle in NC regarding differential salaries is the basis on which we differentiate. MCs show they go beyond knowing things but they can actually do these things.*

Other interviewees believed the state should start with Digital Teaching and Learning MCs. The MCs could be aligned to competencies specified in those standards. Moreover, during the COVID-19 pandemic, educators desperately need competencies associated with effective virtual teaching and learning. MCs could provide an efficient way for teachers to acquire those competencies through online PL targeting the exact sets of skills they need. Multiple interviewees indicated that when the pandemic subsides, there will likely be a permanent change to public education that involves some form of distance teaching and learning. Those sets of competencies will remain useful to NC teachers.

There is some evidence that piloting MCs with new teachers may not be a wise strategy. According to the national research by New America, states that have piloted MCs with new teachers struggled to have a positive impact, largely because effective supports were not in place to support PL using MCs effectively. Another lesson learned was that new teachers perceived MCs to be overwhelming. It may be that in time NC could focus on the use of MCs with beginning teachers, as more advanced teachers earn MCs to support them. Existing developmental pathways created by the state for beginning teachers could be leveraged to define a strong suite of required competencies, aligned to MCs. As observed by one interviewee:

*Here's this expectation that beginning teachers are learning these things...if you could have a competency-based professional learning experience where teachers produce evidence and artifacts to show ...they're actually implementing the things they're learning in their classroom, then you could build out this MC suite where the beginning teacher, at the end of the process, says I've earned [this set of] MCs...because then it's not the teacher saying 'check, I've done the 10 hours of PD' but the teacher saying 'I know how to implement these...skills, because I did it and these are the outcomes and these are my reflections.*

Another NC area of work to consider for aligning a statewide system of MCs is the focus on high quality credentials for students. MyFutureNC, a statewide non-profit focused on educational attainment in the state, with private funding, is helping to lead the charge in NC on the attainment of credentials for employment. MyFutureNC has set the goal for 2 million North Carolinians to earn a high-quality credential or postsecondary degree by 2030. The goal is to eliminate the skills gap between what employers need and the education and training available in the state. The organization is doing systematic and strategic work on credentialing and [there may be synergies between the work on MCs for teachers and credentials for students](#). For example, MyFutureNC is developing a strategic system for identifying the types of competencies and aligned credentials needed for students to obtain a wide range of jobs. They have also developed a credentials eco-system, identifying key players across the state. Both efforts may inform and benefit the NC Partnership for MCs' work.

#### **D. Align the MC work with the State Board of Education's 8-Year Action Plan**

In Section III of this report, we summarized the State Board of Education's action plan for FY21 and the next 8 years. Because this is a mandated action plan and the SBE has dedicated funds to this work (the amount depending on the impact of the COVID pandemic on the state budget), demonstrating how MCs can enhance and support the SBE strategic plan can help to ensure the NC Partnership for MCs vision has a chance. Suggestions for ways to align MCs to the action plan are shared in Section III.

#### **E. Highlight ways in which a system of effective MCs could help to support teachers and students during and beyond the COVID-19 pandemic**

The COVID-19 pandemic has created upheaval in public schools across the United States, and NC is no exception. Schools were forced to offer distance learning to students as young as pre-Kindergarten and Kindergarten. Virtual teaching and learning put a tremendous strain on educators and learners. For teachers, a significant challenge has been to adapt their in-person classroom skills to an online teaching and learning environment. However, it is not as simple as shifting resources and teaching practices from in-person to online. Across the nation it has been made abundantly clear that most teachers do not have the preparation and skills for delivering effective online teaching. Earning MCs in digital teaching and learning competencies could help to develop a significant number of teachers into effective online educators. Those effective educators could extend their impact on students across the state, as teaching and learning are mandated to be virtual. Earning MCs that demonstrate competencies of effective digital teaching can help administrators to identify expertise among staff to support colleagues and students. It may be worthwhile to combine this work on MCs

with the educator professional learning offered by NC Virtual Public Schools to address immediate virtual teaching and learning needs.

## F. Pilot test and externally evaluate MCs

The experiences of many of the interviewees in this feasibility study indicate that rolling out a new system of teacher PL is best accomplished through a pilot study. To give initiatives and/or programs the highest chance of success, starting small allows for continuous monitoring and evaluation of implementation as well as shorter term outcomes. This recommendation is commensurate with the national research conducted by New America. Conducting a small pilot within a district or set of districts that are intentionally chosen for the work allows for the oversight needed to help ensure implementation is carried out as intended, and to identify needed implementation supports as well as challenges and barriers. Intensive monitoring will help implementers to make and document adjustments as needed and contribute to a better understanding of how to implement this system of teacher PL effectively. Building in a continuous improvement cycle through planning, implementing, assessing, reviewing, and problem-solving will help to develop a PL system that has the highest chance of success and portability to other districts and contexts. Thomas Guskey proposes a useful evaluation framework for professional development that involves documenting 5 levels of outcomes that address the following questions:<sup>57</sup>

1. Did teachers like the PD?
2. Did teachers learn what they were intended to learn?
3. Do the contexts in which they work (e.g., the classroom, school, district) allow and support them in using what they've learned?
4. Are teachers still using what they learned (longer-term, after the PD is completed)?
5. Does the PD have an impact on student outcomes?

Most evaluations of teacher professional development and learning stop at the first two levels. However, it is the last 3 levels which dictate the value of teacher PL and PD. If it fails to make a permanent change in teaching practice and impact student outcomes, something has failed - either through poor implementation or an ineffective intervention, or both. The strength of MCs as an approach to teacher professional learning is that they require the assessment of competencies. If done well, they go beyond self-reported improvements and provide actual evidence of changes in specific skills and practice. For pilot tests and program evaluation, the MCs themselves will serve as evidence of the value of the teacher PL. Perhaps most importantly, they are directly measured and with the appropriate evaluation design, can then be linked to relevant student outcomes. It is important to acknowledge that measuring impact on student outcomes is difficult because it can take time for the

acquired skills to have the expected impact. However, evaluation designs can incorporate shorter-term outcomes that are known to influence the longer-term, hoped for impacts on student learning. For example, the goal may be ultimately to improve students' End of Grade (EOG) math exam scores but in the short-term, evidence of attaining specific math skills can be an indicator of improved student learning that is a necessary, although not sufficient, condition for improving the EOG score. If students do not show improvements in those intermediate skills, it is unlikely they will improve in the longer-term outcomes.

Another recommendation coming from several interviewees was to have an external evaluator for the pilot implementation and scaling up of the work, should it be successful. An external evaluator creates accountability in ways that internal evaluators generally do not. Hiring an outside evaluator with expertise in teacher PL and teaching and learning will give the evaluation credibility among stakeholders and should provide insights into program strengths and challenges.

# APPENDIX A

## Members of the NC Partnership for MCs

<p><b>Gov. Bev Perdue</b>  <i>Chairman and Founder</i>  digiLEARN  NC Governor 2009-2012</p>	<p><b>Sen. Deanna Ballard</b>  <i>Chairman Education/ Higher Education</i>  <i>Appropriations</i>  <i>Chairman Education/ Higher Education</i>  NC State Senate</p>	<p><b>Sen. Jay Chaudhuri</b>  <i>Member Education/ Higher Education</i>  NC State Senate</p>	<p><b>Rep. Graig Meyer</b>  <i>Member Education K12</i>  NC House of Representatives</p>
<p><b>Rep. Craig Horn</b>  <i>Chairman Education</i>  <i>Appropriations</i>  <i>Chairman Education Policy</i>  NC House of Representatives</p>	<p><b>Dr. Donna Tipton-Rogers</b>  <i>Member</i>  NC State Board of Education</p>	<p><b>Dr. Patrick Miller</b>  <i>Chairman</i>  Professional Educator Preparation and Standards Commission  <i>Superintendent</i>  Greene County Schools</p>	<p><b>Dr. Terry Holliday</b>  <i>Chairman</i>  National Board for Professional Teaching Standards,  Frm Kentucky Education Commissioner</p>
<p><b>LaTanya Patillo</b>  <i>Teacher Advisor to the Governor</i>  Office of Governor Roy Cooper</p>	<p><b>Cindy Fertenbaugh</b>  <i>Local Board of Education</i>  <i>Board of Education</i>  Cabarrus County Schools</p>	<p><b>Erin Shoemaker</b>  <i>LEA Professional Development</i>  <i>Director of Digital Innovation &amp; Personalized Professional Learning</i>  Charlotte Mecklenburg Schools</p>	<p><b>Sally Schultz</b>  <i>Classroom Teacher</i>  Knox Middle School  Rowan-Salisbury Schools</p>
<p><b>Marcus Gause</b>  <i>Principal</i>  Andrews High School  Guilford County Schools</p>	<p><b>Dr. Angela Quick</b>  <i>Vice President, Education &amp; Workforce Development</i>  RTI International</p>	<p><b>Dr. Mary Ann Wolf</b>  Executive Director  NC Public School Forum</p>	<p><b>Dr. Beverly Emory</b>  <i>State Superintendent designee</i>  <i>Deputy State Superintendent of District Support</i>  North Carolina Department of Public Instruction</p>
<p><b>Arasi Adkins</b>  <i>Human Resources</i>  <i>Assistant Superintendent, Human Resources</i>  Durham Public Schools</p>	<p><b>Stephanie Dean</b>  <i>Organization</i>  <i>Vice President of Strategic Policy</i>  <i>Advising and Senior Consulting Manager</i>  Public Impact</p>	<p><b>Dr. Linda Darling-Hammond</b>  <i>CEO-Founder</i>  Learning Policy Institute</p>	<p><b>Dr. Meghan Doyle</b>  <i>Superintendent</i>  Craven County Schools</p>
<p><b>Dr. Jackie Ennis</b>  <i>Higher Education</i>  <i>Dean of the School of Education</i>  Barton College</p>	<p><b>NaShonda Cooke</b>  <i>Classroom Teacher</i>  <i>Special Education/Interventionist</i>  Carroll Magnet Middle School</p>	<p><b>Dr. Laura Bilbro-Berry</b>  <i>Higher Education</i>  <i>Director of Community College Partnerships</i>  University of North Carolina System</p>	<p><b>Ann Coffman</b>  <i>Organization</i>  <i>Manager, Teacher Quality</i>  National Education Association</p>
<p><b>Brenda Berg</b>  <i>Organization</i>  President/CEO  BEST NC</p>	<p><b>Myra Best</b>  <i>Project Lead</i>  Executive Director  digiLEARN</p>	<p><b>Dr. Deanna Townsend-Smith</b>  <i>SBE Liaison</i>  Director of Board Operations and Policy  NC State Board of Education</p>	

## APPENDIX B

DLI grant recipients for planning and/or implementing MCs, Rounds 1 and 2

<b>Round 1: 2017-18 Planning Grant Recipients</b>		
<b>LEA or Charter School</b>	<b>NCSBE District</b>	<b>Summary</b>
<b>Brunswick County</b>	2 – Southeast	Develop and implement a micro-credential professional learning opportunity for teachers (One Byte @ a Time) aligned with the DLCs to develop technology integration in the classroom.
<b>Clinton City Schools</b>	4 – Sandhills	Develop teachers’ growth on the DLC continuum by exposing them to high quality professional learning to improve teaching practice and student learning.
<b>Granville County Schools</b>	3 – North Central	Support teachers and administrators acquisition of micro-credentials in a digital learning pathway through the Granville Digital Stars Academy.
<b>Iredell-Statesville</b>	6 - Southwest	Create and implement an online micro-credentialing/micro-badging professional development system.
<b>Rockingham County</b>	5 – Piedmont Triad	Create a Personalized Learning Academy for teachers to develop and implement a framework for personalized learning for students.
<b>Round 1: 2017-18 Showcase Grant Recipients</b>		
<b>Charlotte-Mecklenberg</b>	6 – Southwest	Host a personalized learning showcase event emphasizing the whole child and personalized learning for educators across NC.
<b>Greene County</b>	2 - Southeast	Host a GCS Lit-Tech Conference that is content-focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and support, offers feedback and reflection, and is sustained.
<b>Surry County</b>	7 - Northwest	Host a 1-day symposium on micro-credentialing and quest-based learning by expanding the established EPIC Professional Development Academy.
<b>Transylvania County</b>	8 - Western	Host a showcase event demonstrating best practices and inspirational digital teaching and learning from educators in the district and other districts.

Note: DLC = Digital Learning Competencies

## DLI grant recipients for planning and/or implementing MCs

<b>Round 2: 2018-19 Implementation Grant Recipients</b>		
<b>LEA or Charter School</b>	<b>NCSBE District</b>	<b>Summary</b>
<b>Charlotte-Mecklenberg</b>	6 – Southwest	Build a micro-credentialing system for PD around the DLCs and Personalized Learning. Year 1 - BTs/Lateral entry/PL Schools Year 2 -All teachers working toward Mastery
<b>Duplin County</b>	2 – Southeast	Enhance and improve personalized learning opportunities for students through personalized micro-credentialing for teachers and administrators. Year 1 - Develop 10 micro-credentialing Pathways, Canvas Blueprint courses for middle grades math and science, develop 4 model classrooms Year 2 -15 more micro-credentialing pathways including 5 for admins, 6 model classrooms, Canvas Blueprint courses for high school
<b>Edenton-Chowan</b>	1 - Northeast	Partner and collaborate to implement a professional learning model with 5 pathways focused on mastery of the DLCs for Teachers and Administrators.
<b>Gaston County</b>	6 - Southwest	Create Gaston Digital – a professional learning program utilizing micro-credentialing and personalized learning Year 1 - design and production of micro-credentials; development of PD courses Year 2 - implement micro-credentialing process; educators participate in coursework; develop additional courses
<b>Guilford County</b>	5 – Piedmont Triad	Build and implement a suite of professional learning courses for educators and administrators based on the NC DLCs leading to Digital Learning Leader micro-credential. Year 1 - teacher courses Year 2 - adding administrator courses
<b>Hoke</b>	4 - Sandhills	Implement a blended learning professional development series that focuses on the DLCs including course creation for students. Year 1 - building learner profiles and a Digital Citizenship course in Canvas for grades 3-5. Build a professional learning course focused on DLCs Year 2 - building learner profiles and a Digital Citizenship course in Canvas for grades 6-12. Build a professional learning course focused on DLCs
<b>Hyde County</b>	1 - Northeast	Develop and implement professional learning for teachers focused on personalized and blended learning using micro-credentialing. Year 1 - Year 2 - adding modules
<b>Iredell-Statesville</b>	6-Southwest	Build on the work of the DLI Planning Grant to train content creators to build professional learning courses focused on implementing personalized learning in the classroom. Year 1 - Developing online professional learning courses Year 2 - Educators complete the developed coursework

<b>Mooreville Graded</b>	6 - Southwest	Implement an intense multi-tiered personalized learning PD program, M-Powerment, focused on the NCDLCs. Year 1- Tiered PD Year 2- Tiered PD
<b>Perquimans County</b>	1 – Northeast	Partner and collaborate to implement a professional learning model with 5 pathways focused on mastery of the DLCs for Teachers and Administrators.
<b>Rockingham County</b>	5 – Piedmont Triad	Build on Personalized Learning Academy (PLA) that was developed with DLI Planning Grant to increase personalized learning for teachers through micro-credentials Year 1 - Launch PLA learning walks Year 2 - expand to another school (Year 3 - expand to another school)
<b>Rutherford County</b>	8 - Western	Add mobile makerspace tools for elementary and middle school teachers to use. Provide professional learning for teachers focused on the DLCs. Year 1 - Year 2 - seems to be duplicating Y1 just w/different educators; increases number of mobile makerspaces from Y1 to Y2
<b>Wilkes County</b>	7 – Northwest	Implement micro-credentialing of personalized PD on district initiatives and digital teaching and learning practices. Year 1 - Year 2 - Develop additional Canvas modules

**Round 2: 2018-19 Innovation Academy Grant Recipients**

<b>Newton-Conover</b>	7 – Northwest	Implement a model site and online professional learning institute to increase North Carolina’s capacity for implementing the DLCs and personalized learning.
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# APPENDIX C

## INTERVIEWEES FOR NC FEASIBILITY STUDY AND TOPICS THEY ADDRESSED

Interviewee		Feasibility Study Topic					
		State assets	State policies for credentialing & PL	Current approaches, pilots of MCs in NC	NC districts offering MCs	Other orgs supporting NC teacher PL	Policy &/or practice shifts in NC to implement MCs for teacher PL
Name	Title/Role						
Brock Womble	Exec. Dir. NCCAT	•	•			•	
Alex Drier & Mark Samberg	Instructional Design Lead, Dir. of Tech Programs, Friday Institute, NC State	•			•	•	•
Geoff Coltrane	Education Advisor, Governor's Office	•	•	•	•		•
James Beeler	Dir., College Access Partnerships, Appalachian State			•		•	•
Spencer Zeigler	Performance Assessment Admin., Wake County Schools	•		•	•		•
Colleen Bergin	DTL Specialist, New Hanover Schools	•			•		•
Mark Otter	CEO Participate.com	•			•	•	•
Kathy Spencer	Exec. Dir. SE Education Alliance	•	•	•	•	•	•
Patrick Miller	Chair, PEPSC and Superintendent, Greene County Schools	•			•	•	•
Robert Sox	Dir., Educator Standards and Evaluation, DPI	•	•		•	•	•
Pam Batchelor	Digital Learning System Consultant, DPI; DPI partner in NC MC Collaborative	•		•	•		•
Jackie Ennis	Dean of School of Education, Barton College	•	•		•	•	•
Laura Bilbro-Berry	Dir of Community College Partnerships, U of NC system	•		•	•	•	•
Shirley Prince	Executive Director, NCPAPA (NC Principals and Assistant Principals Assoc.)		•	•	•	•	•
Seth Brown	Dir. Educator Support & Leadership Dev., Pitt County Schools; oversees Adv. Tchr Roles grant					•	•

Interviewee		Feasibility Study Topic						
		State assets	State policies for credentialing & PL	Current approaches, pilots of MCs in NC	NC districts offering MCs	Other orgs supporting NC teacher PL	Policy &/or practice shifts in NC to implement MCs for teacher PL	Promising models for offering MCs
Name	Title/Role							
Geetanjali Soni	NC Virtual Public Schools, Director of Teaching & Learning	●	●	●	●	●	●	●
Laura Knapp	Director, Research, Evaluation and Equity in Education, RTI International evaluating work of SE REL on digital badges					●		●
Vanessa Wrenn	DPI state director for Digital Teaching and Learning	●	●	●		●	●	●
Don Lourcey	DTL Coach, Iredell-Statesville Schools; formerly DPI	●			●		●	●
Emma Braaten	Executive Director, DTL, Chatham County Schools; formerly Digital Learning Specialist at DPI	●	●	●	●	●	●	●
Verna Lalbeharie	Director, Digital Age Personalized Learning at AIR; formerly Director of DTL at DPI	●	●	●		●		●
Erin Shoemaker	Director, Digital Innovation & Personalized Professional Learning, Charlotte-Mecklenberg Schools	●			●	●		●
Tom Tomberlin	Director, District HR at DPI	●	●			●	●	●
Elaine Franklin	Director, Keenan Fellows at NCSU	●	●					●
Sam Houston	Executive Director, NC Science & Math Ed Tech Center	●	●			●	●	
Glenn Kleinman	Former Executive Director, Friday Institute, NC State University	●	●	●		●	●	●
Alesha Daughtrey	Executive Director & Partner, Center for Teaching Quality		●	●	●	●	●	●
Melissa Thibault	NC School of Science & Math	●	●	●		●	●	●
Stephanie Dean	Public Impact and Opportunity Culture			●		●		●
Fredrica Nash	RTI International, Center for Education Services	●	●			●		
Thomas Feller	Director, Professional Learning and Leadership Development, Pitt Co. Schools		●		●		●	●

Interviewee		Feasibility Study Topic						
		State assets	State policies for credentialing & PL	Current approaches, pilots of MCs in NC	NC districts offering MCs	Other orgs supporting NC teacher PL	Policy &/or practice shifts in NC to implement MCs for teacher PL	Promising models for offering MCs
Name	Title/Role							
Lande Brady	Online Content Coordinator, Guilford Co. Schools				•		•	•
Gwen Loftin	Granville Co. Schools, Instructional Technology Facilitator	•	•		•		•	•
Diana Lys	Pathways to Practice, UNC		•	•	•	•	•	•
Edna Wallace	RTI International, Education Consultant	•	•	•			•	•
Tara Kini	Learning Policy Institute		•				•	
Katherine Bassett	Former Executive Director, National Network of State Teachers of the Year (NNSTOY)						•	•
Angela Quick	RTI International, former NC Asst State Superintendent, former Deputy Chief Academic Officer	•	•	•		•	•	
Michael Martin	RTI International, former Sr. Policy Analyst, Office of Policy and Strategic Planning at NC Department of Public Instruction	•	•	•			•	
Jeni Corn	My Future NC	•	•	•	•		•	
MaryAnn Wolf	NC Public School Forum	•	•	•	•			•
Bruce Carroll	Principal, Ledford Middle School, Davidson Co. Schools				•	•	•	•

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## ENDNOTES:

<sup>1</sup> E.g., see the NC Micro-credentials Policy Workgroup definition: <https://www.dpi.nc.gov/districts-schools/districts-schools-support/digital-teaching-and-learning/micro-credentialing-north-carolina> . The addition of the ‘validated rubric’ in this definition is a key feature noted in the New America national scan of micro-credential practices and policies that accompanies this MC Feasibility Study. Without a validated rubric, the quality of the evidence for earning a micro-credential questionable and will call into question the value of this form of teacher professional learning.

<sup>2</sup> Killion, J. (2013). *Comprehensive professional learning system: A workbook for states and districts*. Oxford, OH: Learning Forward.

<sup>3</sup> Ibid.

<sup>4</sup> For a detailed report of the important features of an effective educator professional learning system, please refer to the national scan conducted by New America for the NC MC Partnership to accompany this Feasibility Study report.

<sup>5</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.

<sup>6</sup> The national ranking data come from Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute. 2020-21 data indicate a statewide eligibility rate of 52%, down one percentage point from Berry et al’s (2019) report: <https://www.publicschoolreview.com/free-lunch-stats/north-carolina>

<sup>7</sup> Consent Order Regarding Need for Remedial, Systemic Actions for the Achievement of Leandro Compliance (January 21, 2020), accessed at <https://s3.amazonaws.com/carolinajournal.com/app/uploads/2020/01/21164527/Jan-21-order.pdf>.

<sup>8</sup> Ernst & Young (May 1, 2018). Report to the North Carolina General Assembly, accessed at <https://ncleg.gov/documents/sites/committees/JLEOC/Reports%20Received/2018%20Reports%20Received/Audit%20of%20the%20Department%20of%20Public%20Instruction/Independent%20Operational%20Assessment%20of%20NC DPI.pdf> (Cited data are from the slide presentation to the NC General Assembly on May 1, 2018).

<sup>9</sup> PublicSchoolsFirstNC (March, 2020). *The facts on rural schools*. Online report accessed at: <https://www.publicschoolsfirstnc.org/resources/fact-sheets/the-facts-on-rural-schools/>

<sup>10</sup> Minnici, A., Beatson, C., Berg-Jacobson, A., & Ennis, J. (2019). *Developing and supporting North Carolina’s teachers*. San Francisco, CA: WestEd.

<sup>11</sup> Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute. The 2020-21 data regarding free/reduced lunch are updated from <https://www.publicschoolreview.com/free-lunch-stats/north-carolina>

<sup>12</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.

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- <sup>13</sup> Ball, B. (July 24, 2017). State Board of Education to vote on DPI budget cuts, layoffs, Tuesday. *The Progressive Pulse* July 24, accessed at: <http://pulse.ncpolicywatch.org/2017/07/24/state-board-education-vote-dpi-budget-cuts-layoffs-tuesday/>
- <sup>14</sup> Nordstrom, K. (March 7, 2019). Teacher protests helped, but North Carolina still has ways to go to restore school funding. *The Progressive Pulse*, accessed at: <http://pulse.ncpolicywatch.org/2019/03/07/teacher-protests-helped-but-north-carolina-still-has-ways-to-go-to-restore-school-funding/>
- <sup>15</sup> NC Office of Budget Management (no date). Stronger Public Schools report, accessed at [https://files.nc.gov/ncosbm/documents/files/REC2019-21\\_StrongerPublicSchools.pdf](https://files.nc.gov/ncosbm/documents/files/REC2019-21_StrongerPublicSchools.pdf)
- <sup>16</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.
- <sup>17</sup> Kraft, M., & Papay, J. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, 36(4), 476–500.
- <sup>18</sup> Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute.
- <sup>19</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.
- <sup>20</sup> Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute, p. 83.
- <sup>17</sup> Kraft, M., & Papay, J. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, 36(4), 476–500.
- <sup>22</sup> NC State Board of Education Meeting Notes (October, 2011). Accessed at [https://files.nc.gov/dpi/north\\_carolina\\_adoption\\_of\\_standards\\_for\\_professional\\_learning.pdf](https://files.nc.gov/dpi/north_carolina_adoption_of_standards_for_professional_learning.pdf)
- <sup>23</sup> Crow, T., & Pipkin, H. (2017). Learning Forward & Digital Promise. Micro-credentials for impact: Holding professional learning to high standards. Report accessed at: <https://digitalpromise.org/wp-content/uploads/2016/03/micro-credentialsforimpact.pdf>
- <sup>24</sup> Ibid, p. 14.
- <sup>25</sup> Ibid, p. 12.
- <sup>26</sup> Consent Order Regarding Need for Remedial, Systemic Actions for the Achievement of Leandro Compliance (January 21, 2020), accessed at <https://s3.amazonaws.com/carolinajournal.com/app/uploads/2020/01/21164527/Jan-21-order.pdf>.
- <sup>27</sup> Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute.
- <sup>28</sup> For example, Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, 81(3), 376-407.

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<sup>29</sup> Berry, B., Bastian, K. C., Darling-Hammond, L., & Kini, T. (2019). *How teaching and learning conditions affect teacher retention and school performance in North Carolina*. Palo Alto, CA: Learning Policy Institute, p. 15.

<sup>30</sup> *ibid*, p. 16.

<sup>31</sup> *ibid*, p. 26.

<sup>32</sup> The national scan prepared by New America that accompanies this Feasibility Study highlights the evidence-based features of effective adult learning and teacher PL.

<sup>33</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.

<sup>34</sup> *ibid*.

<sup>35</sup> State Board of Education October 2011 meeting notes accessed at:  
[https://files.nc.gov/dpi/north\\_carolina\\_adoption\\_of\\_standards\\_for\\_professional\\_learning.pdf](https://files.nc.gov/dpi/north_carolina_adoption_of_standards_for_professional_learning.pdf)

<sup>36</sup> The Consent Order referred to 7 areas on which to focus, one of which is the system of teacher development and recruitment described in this quote. The others are listed in the document, accessed at  
<https://s3.amazonaws.com/carolinajournal.com/app/uploads/2020/01/21164527/Jan-21-order.pdf>

<sup>37</sup> The action plan indicated the budget deficits due to COVID-19 and acknowledged that if the funds are not available, the action plan will remain in place and be shifted to subsequent years within their 8-year action plan as state funds allow.

<sup>38</sup> Consent Order Regarding Need for Remedial, Systemic Actions for the Achievement of Leandro Compliance (January 21, 2020), accessed at  
<https://s3.amazonaws.com/carolinajournal.com/app/uploads/2020/01/21164527/Jan-21-order.pdf>.

<sup>39</sup> Information on Canvas structure and fees accessed at <https://www.dpi.nc.gov/educators/home-base/canvas#:~:text=Canvas%20includes%20several%20major%20LMS,a%20state%20negotiated%20convenience%20contract>.

<sup>40</sup> Information about NCREN accessed at: <https://www.mcnc.org/our-solutions/connectivity/fiber>

<sup>41</sup> Description of Digital Learning Initiative grants from <https://www.dpi.nc.gov/districts-schools/districts-schools-support/digital-teaching-and-learning/digital-learning-initiative-grants>

<sup>42</sup> New America's national research report describes these different structures of MCs in detail and therefore will not be repeated here.

<sup>43</sup> NSTA = National Science Teachers Association; NCTM = National Council of Teachers of Mathematics; NCTE = National Council of Teachers of English; NEA = National Education Association, the largest labor union in the U.S. and it represents public school teachers among other educators.

<sup>44</sup> The NEA website describes their MCs, including how many they offer, at this website:  
<https://www.nea.org/professional-excellence/professional-learning/micro-credentials#:~:text=NEA%20offers%20over%20175%20micro,created%20by%20educators%20for%20educators>.

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<sup>45</sup> WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). *Sound Basic Education for All: An Action Plan for North Carolina*. San Francisco, CA: WestEd.

<sup>46</sup> DeMonte, J. (2017). Micro-credentials for teachers: What three early adopter states have learned so far. *Washington, DC, American Institutes for Research*.

<sup>47</sup> The Learning Policy Institute report (Berry, Bastian, Darling-Hammond, L., & Kini, 2019) highlights the Florida model of paying these teacher leaders a mentoring bonus, up to 10% of salary, to provide 12 days of mentoring or other support to colleagues per school year.

<sup>48</sup> Crow, T., & Pipkin, H. (2017). Learning Forward & Digital Promise. Micro-credentials for impact: Holding professional learning to high standards. Report accessed at: <https://digitalpromise.org/wp-content/uploads/2016/03/micro-credentialsforimpact.pdf>

<sup>49</sup> Definition accessed at: [https://ies.ed.gov/ncee/edlabs/regions/southeast/blog/2020\\_08\\_05\\_COVID-19\\_and\\_competency-based\\_education.asp](https://ies.ed.gov/ncee/edlabs/regions/southeast/blog/2020_08_05_COVID-19_and_competency-based_education.asp)

<sup>50</sup> Sturgis, C., & Casey, K. (2018). Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed. CompetencyWorks Final Paper. *iNACOL*.

<sup>51</sup> See <https://microcredentials.digitalpromise.org/faqs>

<sup>52</sup> Fang, M., Gerhart, B., & Ledford Jr, G. E. (2013). Negative effects of extrinsic rewards on intrinsic motivation: More smoke than fire. *World at Work Quarterly*, 16(2), 17-29.

<sup>53</sup> Pink, D. H. (2011). *Drive: The surprising truth about what motivates us*. London: Penguin Books.

<sup>54</sup> Fang, M., Gerhart, B., & Ledford Jr, G. E. (2013). Negative effects of extrinsic rewards on intrinsic motivation: More smoke than fire. *World at Work Quarterly*, 16(2), 17-29.

<sup>55</sup> The Center for Teaching Quality (CTQ) website highlights their work with Wake County, accessed at: <https://www.teachingquality.org/microcredentials-case-study-wcpss/>

<sup>56</sup> Metz, A. & Louison, L. (2018) The Hexagon Tool: Exploring Context. Chapel Hill, NC: National Implementation Research Network, Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill. The most recent version, released in September 2020 can be accessed at: [https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/imce/documents/NIRN%20Hexagon%20Discussion%20Analysis%20Tool\\_September2020\\_1.pdf](https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/imce/documents/NIRN%20Hexagon%20Discussion%20Analysis%20Tool_September2020_1.pdf)

<sup>57</sup> Guskey, T. R. (2016). Gauge impact with 5 levels of data. *SMEC2016 Organising Committee*, 37(1), 32-37. Access at: <https://tguskey.com/wp-content/uploads/Professional-Learning-1-Gauge-Impact-with-Five-Levels-of-Data.pdf>