

Strategies for Addressing Educator Recruitment and Retention in Maine: Career Ladders and Paid Internships



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Table of Contents

<i>Policymaker Summary</i>	<i>i</i>
<i>Introduction</i>	<i>1</i>
<i>Methodology</i>	<i>1</i>
Document Analysis	1
Stakeholder Focus Group and Interviews	2
<i>The Educator Shortage Crisis</i>	<i>3</i>
<i>Part I: Career Ladders – Overview, Purpose, and Examples</i>	<i>7</i>
Overview	7
Maryland Career Ladder Framework	10
Other State Models	14
Iowa	14
Arizona	15
California.....	16
Kentucky	17
Vermont.....	17
Status of Career Ladders in Maine	17
<i>Part II: Strategies for Initial Preparation: Residencies and Apprenticeships</i>	<i>21</i>
Teacher Residency Programs (TRPs)	21
The Maine Teacher Residency Project (MTR)	23
Registered Teacher Apprenticeship Programs (RTAPs)	25
Registered Teacher Apprenticeship Programs (RTAPs) in Maine	27
Future Potential: Residencies Within Apprenticeships	28
Maine Stakeholders’ Perceptions of Residencies (TRPs) and Apprenticeships (TRAPs)	29
<i>Part III: Policy Options</i>	<i>34</i>
<i>References</i>	<i>40</i>

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Policymaker Summary

Why was this study conducted?

This study was commissioned in the summer of 2023 as a part of L.D. 1608 “An Act to Address Teacher Shortages Through Financial Assistance and Career Advancement Opportunities.” The purpose was to examine the development of career ladders for educators as a means to address challenges related to educator recruitment and retention, and to analyze options for developing additional levels of teacher certification – both below and above the existing two levels – to accompany career progression.

What do you need to know to put this study into context?

This research is situated within the context of an educator shortage in Maine and across the nation. Educator shortages spanning many categories of school staff have been on the rise for several years and the COVID-19 pandemic exacerbated the problem ([NEA, 2022](#)). Enrollments in educator preparation programs, including those in Maine, have declined. Furthermore, as Maine’s student population continues to diversify there is a parallel need to diversify the educator workforce, as research has clearly demonstrated the positive impacts that having a teacher of color has on all students. There are multiple causes and contributing factors to the shortage, requiring multifaceted approaches to address it. This report focuses on two such strategies: career ladders and paid internships.

What did we learn from the study?

Career ladders are being employed by states to elevate the profession. They help make teaching a more attractive career, thus improving both teacher recruitment and retention.

Early steps of the career ladder

We learned that providing options for paid internships through Teacher Residency Programs or Registered Teacher Apprenticeship Programs reduces financial barriers that deter some candidates from pursuing teaching.

There is no single uniform model for **teacher residency programs** (TRPs). Guha et al. (2016) identified the following key characteristics of high-quality teacher residency programs:

1. Strong district - university partnerships.
2. High-ability, diverse pre-service candidates recruited to meet specific district hiring needs, typically in fields where there are shortages.
3. A full year of apprentice teaching under supervision.
4. Coursework about teaching and learning tightly integrated with clinical practice.
5. Ongoing mentoring and support for graduates.
6. Cohorts of residents placed in schools that model good practices with diverse learners and are designed to help novices learn to teach.
7. Financial support for residents in exchange for a three- to five-year teaching commitment.
8. Carefully selected expert mentor teachers who co-teach with residents.

With a history of more than twenty years, teacher residencies with these characteristics have been found to result in more effective new teachers (Azar et al., 2021; Guha et al., 2016; NCTR, 2019). TRPs have also resulted in a more diverse pipeline into the teaching profession. In addition, those who complete such teacher residency programs have higher teacher retention rates (Azar et al., 2021; Guha et al., 2016; NCTR, 2019). In these ways, teacher residencies can help address teacher shortages, providing schools and classrooms with high-quality and diverse teachers and with teachers who are more likely to persist (Guha et al., 2016; NCTR, 2022; Rowland, 2023).

Registered apprenticeships are new to the field of education and thus do not yet have the evidence base that residency programs have developed. However, building on a proven track record in other career areas, Registered Apprenticeships are seen as a high

quality career pathway where employers play a pivotal role in preparing their future workforce. Participating individuals obtain paid work experience with progressive wage increases. They have intentional on-the-job learning experiences combined with job-related training and instruction. Apprentices earn a portable, nationally-recognized credential (Office of Apprenticeship, n.d.) after completing requirements for each tier of their career track.

Upon reauthorization of the National Apprenticeship Act in 2021, the United States Department of Labor (USDOL) entered into an agreement with the USDOE to promote the integration and alignment of apprenticeship programs with secondary, postsecondary, and adult education (H.R.447). A number of apprenticeship occupations in the Education industry have been approved by the USDOL, including principal, K-12 teacher, early childhood educator, and teacher's aide (USDOL, 2023; National Center for Grow Your Own, (n.d.). Registered Apprenticeship Programs for these education industry occupations serve as a career ladder, beginning with preparation to become an educational technician through preparation to become a principal.

Registered Apprenticeship Programs for educators include educator preparation program coursework that meets certification requirements. Apprentices work for at least one year under the supervision of a mentor/journeyworker, progressively increasing their levels of responsibility and autonomy as described in a Schedule of Work ([NEA-AFT, 2022](#)). During on the job learning, they develop and demonstrate competencies based upon professional standards (e.g., InTASC Model Core Teaching Standards). Programs are designed to meet state licensure and certification requirements, and apprentices earn a portable, nationally-recognized credential within their industry, the USDOL Certificate of Completion of Apprenticeship ([USDOL, 2022](#)).

In Maine, residency programs and registered apprenticeships have evolved on parallel tracks; they are distinct from each other. The Maine Teacher Residency project prepares general education teachers, and the handful of newly approved registered apprenticeship programs are focused on roles in special education (from Educational Technician I through professionally licensed teachers). However, this is not always the case. Other states connect these initiatives and include teacher residencies as a tier within

their registered apprenticeship programs. This secures funding from the Department of Labor for a coordinated system – a strategy that they have employed to strengthen, diversify, and stabilize the teaching workforce.

Advanced steps of the career ladder

In a well-articulated career ladder, experienced teachers have opportunities for progression into more advanced roles. Such systems have been modeled after high performing countries where the strongest teachers lead and mentor new and struggling teachers through formal, dedicated roles like “lead” and “master” teacher. Such roles can vary based on the district’s needs and the teacher’s own interests and abilities. Teachers become promoted to lead or master teachers by demonstrating the requisite skills and specialized expertise needed for a given position, such as exceptional teaching ability, being strong contributors to the work of teaching teams, building skills to mentor or coach other teachers, or becoming competent researchers. Lead or master teachers can facilitate groups of teachers in professional learning communities; observe and provide feedback on each other’s lessons; analyze the effectiveness of instructional materials; help develop curriculum and assessments; and/or review school and student data to pinpoint what is working and what might need improvement.

Career Ladders vs. Certification

Finally, through our research we learned that there is a distinction between career ladders and teacher certification policy. State policies that define levels of a career ladder for educators are typically separate from certification policy. Although most states have levels of certification that resemble a ladder, there is not a one-to-one correspondence with a tailored certificate for each specific type of educator role. Career ladder policies in most states provide a framework for career development, offer LEA’s guidance for their development and implementation of career ladders, and stipulate criteria for districts to be eligible for state funding to support their work. In contrast, certification policies stipulate minimum eligibility requirements for certain benchmark educator roles such as serving as a teacher of record, or having authority to supervise and evaluate job performance. The level or type of certification required for a given position on the career ladder is then

dictated by whether it includes responsibilities that are proscribed in the state's certification policy.

Furthermore, a state may choose to offer a credential that is not mandatory on the career ladder. This is often the case with lead or master teacher certificates. The requirements for the credential serve as guidelines for demonstrating competency, and attainment of the credential becomes a portable hallmark of accomplishment for the teacher. But an employer may opt to make the credential optional when selecting a teacher to fulfill the given role, as long as the job responsibilities are not specified in certification policy as demanding a certain credential. This is particularly common when the role is small and stipended rather than a dedicated position.

What are some potential implications for education policy and/ or practice?

The study has several implications for policymakers and education stakeholders in Maine:

1. Development and implementation of career ladders may be an effective strategy to support educator recruitment and retention in Maine. However, these efforts are not a cure-all and should be part of a comprehensive approach, aligned with the Teach Maine framework, that targets multiple factors of the educator workforce shortage. Attention should be given to other factors that increase the professionalization of teaching such as having appropriate entry requirements into the profession, improving working conditions and increasing educator pay which have been found to have a greater impact on teacher recruitment than career ladders.
2. Implementing career ladders means creating differentiated pathways for educators to advance in their careers; providing opportunities that span a career can make becoming an educational professional more attractive. This includes high-quality paid residency and apprenticeship program options for those at the early steps of the career ladder, and teacher leadership opportunities for those expert teachers at advanced steps of the career ladder. Leadership roles should be differentiated, with master teacher options that support high-quality instruction as well as administrative pathways, and fairly compensated.
3. Maine policy makers may want to consider modeling career ladder policy after those in other states where the development of career ladders is in statute and

separate from certification rules. Statute can define steps of the career ladder, offer a framework for school districts to use in the development of their position descriptions spanning the career ladder, provide guidance on implementation, and allocate funding to support districts in their development and implementation of career ladders.

4. While Maine has only adopted the registered apprenticeship model for special education to date, the potential exists to apply the framework within general education preparation pathways. In other states, registered apprenticeships have been developed that include a teacher residency as the culminating experience of their preparation. This approach facilitates additional federal funding from the Department of Labor.
5. Although stakeholders may shy away from making certification more complex, adding new certification types within MDOE Rule Ch. 115 could be a lever for transforming teaching from a flat profession to one that is more dynamic, and therefore attractive. Codifying roles for paid internships (i.e. through teacher residencies or apprenticeships) and for lead or master teachers would recognize differentiated roles for educators at various steps of a career ladder. Intern certification would recognize preservice teachers pursuing on-the-job learning in paid positions as residents or apprentices in schools. Lead or master teacher certification would differentiate expert teachers from others with the same years of experience, and foster greater understanding of the variety of roles that teachers can play as leaders, coaches, and members of a team of educators who support students. Advanced credentials such as master or lead teacher also serve as portable hallmarks of accomplishment, even if they exist as guidelines rather than strict requirements.
6. A third pathway to certification should be considered. Pathway 3 would be reserved for those in approved residency or apprenticeship programs that replace traditional unpaid student teaching with on-the-job learning. This third pathway should be accompanied by revisions to alternative pathways in MDOE Rule Ch. 114 to incentivize school districts and educator preparation programs to partner with one another to develop flexible, competency-based, high quality alternative pathways that address schools' critical needs. The approval process should delineate the unique roles and responsibilities that are shared between preparation programs and the employing schools in these models. At the same time, it would be possible to expand the eligibility of the types of institutions or entities that can seek and earn state approval to offer an educator preparation program, as other states have done. For example, Regional Service Centers could be empowered to grow their own teachers by developing state-approved programs for teacher certification, either independently or in partnership with institutions of higher education.

7. Governance is also a consideration for policymakers. PK-12 leaders suggested that they currently lack a role and would like more voice in this process. Policymakers in Maine might consider adopting a more collaborative model for oversight. As noted in our scan of Maryland, they have a Professional Standards and Teacher Education Board that includes various stakeholders from both PK-12 and educator preparation programs. The body shares the authority and responsibility for developing rules and regulations for certification and for assuring the quality of educator preparation. A coordinated system would consider the evidence base as well as federal policy requirements and help to assure that all of Maine's policies related to teacher preparation, certification, evaluation, and support are not only based upon the most recent research evidence but also work in concert with one another. Key stakeholders including members of the Education and Cultural Affairs Committee, the State Board of Education, Maine Department of Education, IHEs that offer teacher and leader preparation, and organizations like the Maine Education Association and those representing Maine school leaders should have a policymaking role relating to teacher quality in Maine. Greater coordination would serve to elevate the profession and result in a coordinated effort focused on recruiting and retaining high quality educators for Maine's children.

What methods were used to conduct this study? How robust are the findings?

This study employed a qualitative research design. The data was collected through document analyses of career ladder policies and programs in other states as well as Maine, and via 6 regional focus groups and 10 interviews with a variety of stakeholders across the state. These data were collected and analyzed concurrently. The interviews and focus groups were primarily administrators and teacher educators due to the nature of the questions being addressed. Future research that focuses on teacher and resident perspectives is being conducted as part of the program evaluation for the Maine Teacher Residency project and from the newly established apprenticeship programs.

Introduction

In 2023, the 131st Maine State Legislature passed and Governor Mills signed L.D. 1608 An Act to Address Teacher Shortages Through Financial Assistance and Career Advancement Opportunities. The Maine Education Policy Research Institute (MEPRI) was commissioned to prepare this report within Section 2 of this act. The purposes of this MEPRI study were to 1) examine the development of career ladders for educators as a means to address challenges related to educator recruitment and retention, and 2) identify policy options for additional teacher credentials aligned to certain steps on the career ladder.

After briefly describing our methodology, the report begins with background on the educator shortage crisis in Maine. We then provide an overview of career ladders: what they are, how they impact educator recruitment and retention, and a description of Maryland's example of a comprehensive statewide approach. Maine's current career progression and certification systems are described for comparison. In the second part of the report, we turn to describing two strategies for preparing educators at the early stages of the career ladder: teacher residency programs and educator apprenticeship programs. These approaches aim to expand recruitment, and improve longer-term retention compared to other types of initial preparation. We conclude the report with possible policy implications including options for initial and advanced certificate levels within Maine Department of Education (MDOE) rule chapter 115.

Methodology

For this study we employed a qualitative research design. The data was collected through document analyses of career ladder policies and programs in other states as well as Maine and via focus groups and interviews with stakeholders within Maine. These data were collected concurrently.

Document Analysis

The first form of data collection for this study was a document analysis of career ladder policies and programs in other states to identify examples that might inform policies and programs in Maine. The document analysis consisted of an initial review of career

ladder policies and programs in Maryland, as it was identified in the statute for review. Additionally, we completed a scan of other New England states and rural states for career ladder policies and programs that might be informative. Finally, we scanned state policies and programs that were recommended to us by the stakeholders with whom we spoke.

We scanned twelve states: Arizona, California, Illinois, Iowa, Kentucky, Maryland, Missouri, New Hampshire, Tennessee, Vermont, Washington, and West Virginia. Our goal was to identify states that have career ladders as well as teacher residency and apprentice programs. In addition, to inform possible options for adoption in Ch. 115, we examined whether states have types of certification that roughly correspond to a career ladder, specifically seeking to identify states that have a level of certification for those who are not fully qualified for full initial teacher certification (e.g., resident, apprentice, or intern certificate) as well as states that have an advanced level of certification for experienced teachers (e.g., master teacher or advanced educator certificate). The document analysis involved skimming (superficial examination), reading (thorough examination), and interpretation of each state's policies and programs' relevance to the research (Bowen, 2009).

Stakeholder Focus Group and Interviews

The second form of data we collected was through focus groups and interviews with education stakeholders throughout Maine to gain their perspective on career ladders as a means to support the recruitment and retention of teachers. Six focus groups were held during regional monthly superintendents' meetings. In addition, interviews were conducted with eight educational leaders from K-12 from a variety of locations within Maine, educator preparation programs, and an education-focused non-profit. Focus groups and interviews were conducted in person or by video conference between September and October 2023. They were either recorded and transcribed or detailed notes were taken. The contents of the focus groups and interviews were analyzed to identify common themes amongst education stakeholders across Maine. Limitations of our research are that it does not include the teacher perspective and we did not consider pathways to become school administrators or other positions where there are also reported shortages.

The Educator Shortage Crisis

This research is situated within the context of an educator shortage in Maine and across the nation. Educator shortages spanning many categories of school staff have been on the rise for several years and the COVID-19 pandemic exacerbated the problem (NEA, 2022).

Due to a lack of comprehensive data, the exact nature of the problem within Maine is difficult to fully understand, but four pieces of data inform our understanding of the nature of the state's educator shortage crisis: 1) designated teacher shortage areas; 2) stakeholder reports of shortages; 3) a decline in educator preparation enrollment; and 4) teacher attrition. We describe each below.

Each year, the MDOE designates teacher shortage areas for federal reporting. According to 34 CFR 682.210(q)(8)(vii), "teacher shortage area" means "an area of specific grade, subject matter or discipline classification, or a geographic area in which the Secretary determines that there is an inadequate supply of elementary or secondary school teachers." The following are PreK-12 designated teacher shortage areas for the 2023-2024 school year in Maine and approved by the U.S. Secretary of Education:

- General Elementary
- Early Childhood
- English for Speakers of Other Languages
- English/Language Arts (Middle and Secondary Level)
- Physical Education
- Mathematics (Middle and Secondary Level)
- Science (Middle Level)
- Science-Life (Secondary Level)
- Science-Physical (Secondary Level)
- Teacher of Students with Disabilities
- Visual Arts
- World Languages (MDOE, 2023c)

These shortage areas are determined based on the supply of educators as indicated by certification data and input received during a comment period. The methodology is prescribed by the federal government [see 34 CFR 682.210(q)(6)] and attends to the teacher supply only, not the demand for teachers in local communities. The reliance on certification data as a measure of supply is problematic, as many educators hold multiple certifications, and are not truly in search of work for each of their credential areas (Johnson & Morris, 2019).

More data related to demand is needed to fully understand educator shortages in Maine. For example, statewide data related to educator vacancies are currently unavailable. Further, there is a lack of data regarding the diversity of Maine's school staff as MDOE does not currently collect data on race and ethnicity. This too is problematic because Maine's population continues to become more diverse, and there is mounting evidence that having an education workforce that reflects the social and cultural diversity of our student body has a positive overall impact on student success (Johnson et al., 2020). Lacking such statewide data documenting the need for educators, the full extent of the educator shortages can only be estimated.

To assist in our understanding of the unmet demand for educators in Maine, we relied on information reported by educational leaders across the state. For example, referencing the critical shortage in her testimony in support of LD 1608, Grace Leavitt, president of the Maine Education Association (MEA), stated: "We are experiencing a critical shortage of teachers across the state in a variety of content areas and at all levels of instruction. What we saw coming years ago has worsened all the more these last few years than even we had anticipated."

Likewise, the school leaders across the state with whom we spoke emphasized the dire educator shortage in Maine. As one assistant superintendent put it, "We are in the crisis now; we need a statewide effort. The best would be to get to a stable point in 5-7 years." By "the best" the speaker meant the most optimistic outlook for addressing staffing needs that span multiple levels: substitutes, educational technicians, teachers, substitutes, educational technicians, teachers, and leaders.

Presently, leaders suggest there is a trickle-down effect of the current crisis. Another leader described the negative impact on staffing at lower levels when moving capable teachers into leadership roles:

“As you need to fill jobs, you know a veteran teacher who's been in your building a number of years, knows the community, knows the players. This is somebody that you recruit to be the principal and it trickles down to an Ed tech. A very capable Ed Tech has relationships with the kids and the family. And this is somebody you approve to be an entry-level teacher or to get into one of these apprentice programs, and you and you open up vacancies, as you know, further down the chain. So now we're trying to recruit, and many of us, many of us, I think, are having challenges.”

One of the challenges that district leaders expressed, especially those located in more rural areas, is a historical reliance on members of their communities to staff vacancies; however they are finding that this pool of candidates is dissipating. According to one leader,

“In Washington County for many years, we grow our own. I'm looking around the room. Many of us are graduates of area high schools, myself included. And that has been how we have filled vacancies, but as fewer people enter the potential pool, I'm concerned about whether or not we will be able to continue to do that.”

In their words, “No new people are coming in,” presenting a crisis to which stakeholders do not see an end.

A primary reason that “no new people are coming in” is that “the number of individuals entering and graduating from teacher preparation programs is much lower now than a decade ago, while the percentage leaving positions in public education continues to increase” (NEA, 2022). As Johnson et al. (2020) reported in a previous MEPRI report, Maine’s enrollment of pre-service teacher candidates has declined substantially in recent years. Between 2012-2013 and 2018-2019, there was a 19% decrease in teacher preparation program enrollment in Maine (Office of Postsecondary Education, 2023). This may be a result of the fact that college enrollments in Maine have declined during the same period¹ and the number of high school graduates is ten percent fewer (Knocking at the College Door, 2020). Another possible explanation for this decline in students enrolled in

¹ <https://www.maine.edu/databook/student-related-reports/>

state approved educator preparation programs is that prospective teachers have entered the profession through Pathway 2: transcript analysis. Data related to how many become certified through this alternative pathway is not publicly available so the full picture behind the educator preparation program decline can only be estimated.

The lower enrollments could also be a result of a decline in interest in teaching as a career. Across studies, those who express an interest in teaching share similar reasons for their interest. They indicate they are driven by their interest in teaching, passion for subject matter, and desire to do meaningful work and to make a difference (Fairman & Lech, 2023; Bartanen & Kwok, 2023; Croft et al., 2018). There were also commonalities in these studies amongst those who did *not* express an interest in working as a teacher. Compensation was identified as a key factor in decisions not to pursue teaching (Fairman & Lech, 2023; Bartanen & Kwok, 2023; Croft et al., 2018). Specific to the context of Maine, Fairman and Lech (2023) found that those who planned to teach and those who did not plan to teach agreed that a starting pay of \$40,000 is too low.

Low compensation and stressful working conditions have also influenced teacher attrition. According to Schmitt and deCourcy (2022), “the combination of substandard teacher compensation and highly stressful working conditions has, in recent decades, made teaching a much less attractive profession than alternatives available to workers with college degrees” (p. 2). Due to these factors, educators across the country are retiring or leaving the profession at higher rates. Now, one-third of teachers are somewhat or very likely to leave the profession, compared with only 8% before the pandemic. Turnover rates across the country are expected to be highest among teachers over 55, who represent 17% of public school teachers (Prahlad, 2021). Figures for Maine in 2022 show that record numbers of teachers and other educators retired or otherwise left their positions. For that year, the Maine Public Employee Retirement System reported more than 1,300 teachers, education technicians, administrators, and other educators in Maine left their jobs, and 927 educators retired (Ellin, 2023). The loss of these educators reduces the level of experience in many schools in addition to contributing to educator shortages.

Part I: Career Ladders – Overview, Purpose, and Examples

Overview

With no end to staff shortages in sight, the need for focused efforts to recruit and retain educators is ongoing. Differentiated career ladders have been identified as a means toward this end by elevating the teaching profession and providing a clear trajectory for career growth. The goal has been to transform the traditional flat career plan, that is based upon a single salary schedule and rewards teachers based on seniority and experience, to a differentiated career ladder that makes a teaching career more dynamic.

In recent decades, differentiated career ladders have been identified as a potentially powerful lever for transforming teaching into an attractive career with multiple pathways. Teachers may be promoted to more advanced teacher levels where teaching in the classroom remains key to their role, or teachers may be promoted to administrative or leadership positions that take them out of the classroom. In both cases, a teacher takes on a new status or role after meeting the required standards to do so and their pay reflects their new position (Tourneur et al., 2019). These are models that train teachers to utilize their content area and pedagogical expertise within their systems to build capacity, support new educators, and lead initiatives. The teacher leaders are held to a higher standard, and their performance is evaluated upon clear expectations related, in part, to the success of the mentees, programming, or survey data (MDOE, 2023a).

High-performing countries have created differentiated career ladder structures within schools and school systems that promote professional learning and enable teachers to take on new responsibilities based on their interests and skills (NCEE, 2016; NCSL, 2016). In these countries, such as Singapore, Finland, Australia, Canada, Mexico, Peru, and Ecuador there are significant variations within the career ladder structures and a variety of roles for teachers in the schools so they can use their expertise to improve teaching and learning. Using an appraisal process to identify teachers with particular skills and to enable teachers to demonstrate their competencies, these systems provide teachers with leadership opportunities to develop curricula, write assessments, mentor younger teachers, and oversee professional development (Tourneur et al., 2019; Darling-Hammond

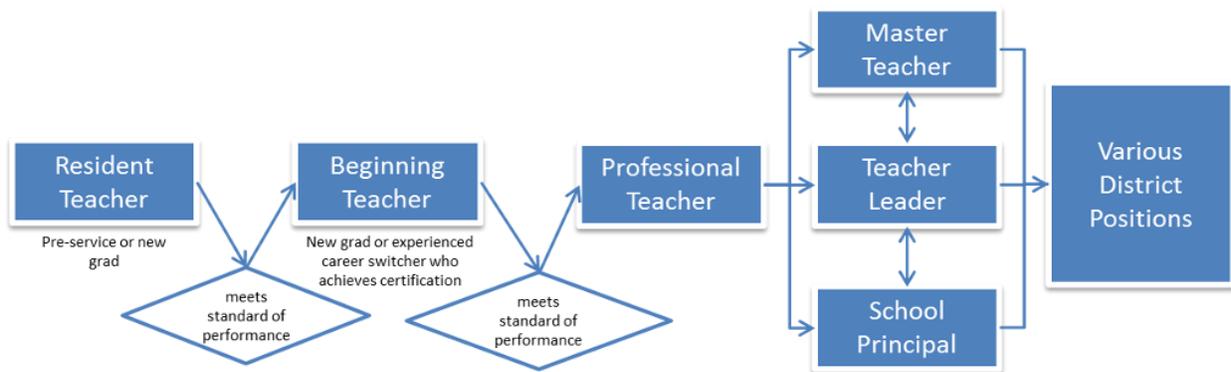
et al., 2017). As a result of these opportunities for advancement, teachers do not have to leave teaching or move into administration in order to advance in their careers (NCEE, 2016; NCSL, 2016).

Within the United States, new iterations of career ladders for experienced teachers have been modeled after those in high performing countries. Some systems have multiple career tracks to encourage teachers to specialize in important roles such as content specialists, instructional coaches, or curriculum developers. The work of schools is organized around the strongest teachers leading and mentoring new and struggling teachers through formal, dedicated roles like “lead” and “master” teacher. Teachers become lead or master teachers by demonstrating the requisite skills and specialized expertise needed for a position. This includes demonstrating exceptional skills as teachers, becoming strong contributors to the work of teaching teams; building skills to coach new or struggling teachers; or developing skills for evidence-based program improvement. Lead or master teachers facilitate groups of teachers in conducting collaborative action research; observing and providing feedback on each other’s lessons; analyzing the effectiveness of instructional materials; developing curriculum and assessments; and reviewing school and student data to pinpoint what is working and what might need improvement. These teachers are rewarded with greater responsibility and compensation and, because their salaries are tied to their roles and responsibilities, they have financial incentives to acquire new skills and expertise and improve their own and others’ teaching and the performance of the entire system (NCEE, 2021).

These differentiated staffing models present an alternative to the traditionally flat, linear teacher career path and allow teachers to move flexibly between roles as their expertise shifts, interests evolve, and responsibilities grow. In a purposeful career ladder with beginning and more advanced opportunities, teachers assume formal leadership roles that include a change in title and job responsibilities and potentially a change in compensation to ensure that these roles are perceived to be valuable and meaningful opportunities for career advancement (U.S. Department of Education. (n.d.-b). The career progression for teachers “supports and rewards the development and sharing of expertise. ...Teachers support one another to get better and improve the whole school” (NCEE, 2021).

In an effort to reform the teaching career in this country, the United States Department of Education (USDOE) launched the Recognizing Educational Success, Professional Excellence, and Collaborative Teaching (RESPECT) Project in 2012. The USDOE (2013) proposed transforming the teaching profession by offering teachers career lattices that could support excellent teaching and leadership. Figure 1 below is an example of one such Teacher Role Structure. As illustrated, a career lattice for teachers includes the role of resident teacher for novices and master teacher, teacher leader or school principal as roles for expert teachers.

Figure 1 Teacher Role Structure



(USDOE, 2013).

Drawing upon these teacher role structures, the plan seeks to “Raise the Bar” to assure students “have access to outstanding, well-prepared, well-supported educators who reflect the diversity of the students they serve,” and it views career ladders as a means to accomplish this goal. The USDOE highlights the importance of investing in career ladders for teachers, emphasizing how differentiated opportunities for teachers improves student learning, working conditions, and teacher retention (U.S. Department of Education, n.d.-b).

Developing, supporting, and sustaining a robust educator workforce is a strategic priority for the Maine Department of Education (MDOE). Teach Maine (2023a) proposes differentiated career ladders as a means for developing and supporting high-quality teacher leadership. Similar to the USDOE’s conception of career ladders, the differentiated career ladder models described in Teach Maine are informed by those in high performing countries.

Notably, while the career ladder depicted above begins at the point when a candidate starts an entry-level teacher role, the teacher *recruitment* pipeline begins much earlier. There are increasing efforts to attract talented middle and high-school students into teaching, and educator preparation programs widely advertise to undergraduate college students as well as post-bachelor's career changers. This will be revisited in our discussion below of apprenticeship programs, which have an expanded scope starting with paraprofessional teacher aides.

Maryland Career Ladder Framework

Although a number of states have undertaken efforts to design and implement career ladders for educators, Maryland is the only state we found that has sought to *comprehensively* follow NCEE's blueprint to redesign its education system. Through this process they have increased the standards, expectations and compensation of teachers to ensure an abundant supply of highly qualified classroom teachers and create a leadership development system (NCEE, 2023). The Blueprint for Maryland's Future was passed by the Maryland General Assembly in 2021 with the goal of transforming the state's public education into a world-class education system (Maryland State Department of Education, 2024a). Pillar two of the state's Blueprint focuses on "High Quality and Diverse Teachers and Leaders." Within this pillar is an outline for developing career ladders for teachers and school leaders with standards for advancement and compensation.

Maryland Code of Regulations for Education, Section 6-1001, defines a career ladder for public prekindergarten, primary, or secondary school teachers. It states the purpose of the career ladder is to transform teaching into a high-status profession. Among the goals for the career ladder is to recruit high-performing students to enter teaching; retain high-quality teachers by giving them additional responsibility, authority, status, and compensation as they gain additional expertise; provide teachers with professional learning and peer collaboration time during the school day by having more teachers in each school; develop competent school leaders and ultimately transform the state's education system into a top-performing system in the world that instills a passion for learning and a mastery of the skills necessary to succeed in the global economy (Md. Code, ED § 6-1001).

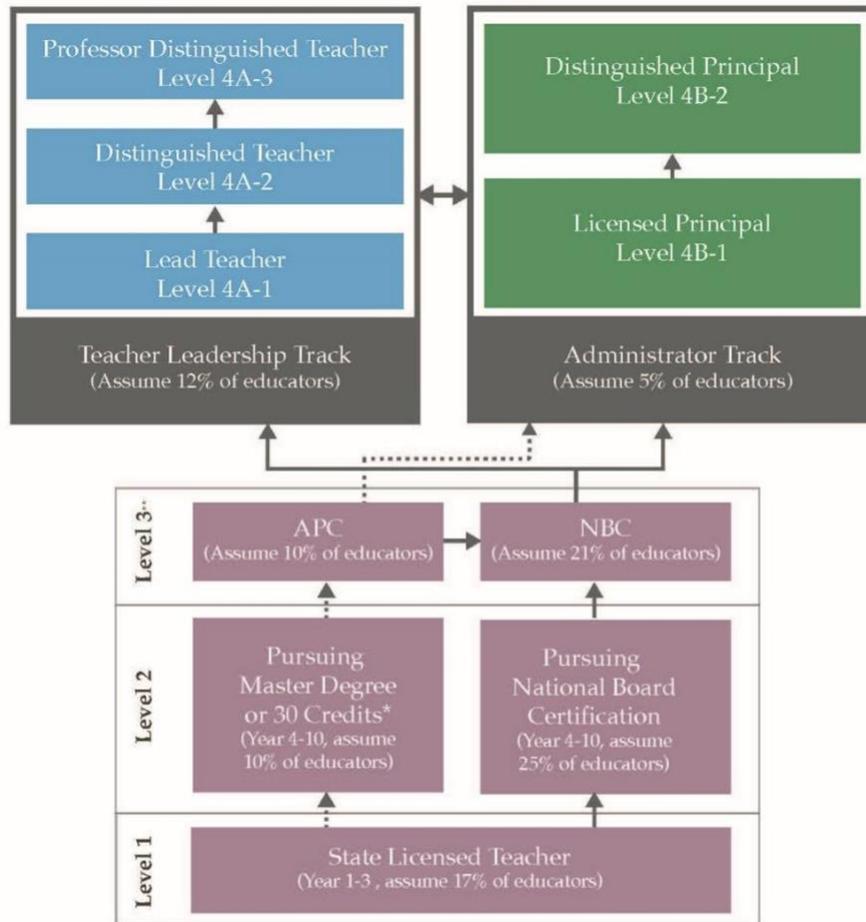
According to the Maryland Code of Regulations for Education, the levels of the career ladder illustrated in Figure 2 below are as follows:

- (1) A State certified teacher;
- (2) A teacher pursuing a master's degree; a program of study approved by the State Board, in consultation with the Professional Standards and Teacher Education Board; or National Board Certification;
- (3) A National Board Certified (NBC) teacher; a teacher with a master's degree in the teacher's subject area; or an assistant principal;
- (4) A teacher on the teacher leadership track or on the administrator track.

LEA's implement the career ladder in accordance with the standards set forth in Maryland's Code of Regulations for Education and standards adopted by Maryland's Department of Education. A county board may not receive funding from the State for the implementation of the career ladder unless the county board implements a career ladder that meets the requirements of Maryland Code of Regulations for Education (Md. Code, ED § 6-1002).

Each county board may convene a local career ladder development board to create an implementation plan and set standards for teachers to achieve each tier in the teacher leadership track. The guiding principles for development of the career ladder include progression of teachers' salary in a manner that incentivizes teachers to stay on the teacher track rather than moving to the administrator track; a teacher salary that attracts new teachers to the profession; a teacher salary that incentivizes existing teachers to opt in to the career ladder; and teacher salary progression as expertise increases as demonstrated by a teacher achieving NBC. In accordance with Maryland Code of Regulations for Education, the career ladder shall adequately compensate professional teachers for their work and compensation is subject to collective bargaining.

Figure 2 Maryland Educator Career Ladder²



The career ladder is distinct from certification. Maryland has levels of certification similar in structure to its career ladder defined in Maryland Code of Regulations for Education (Md. Code, ED § 6-1002); however, there is not a direct correspondence. The Maryland certification types for teachers are as follows:

1. Conditional Certificate: Issued to an applicant employed in a MD local education agency or publicly funded nonpublic school who does not meet all professional certification requirements.
2. Resident Teacher Certificate: Issued to an applicant who has been selected by a MD local education agency to participate in an alternative teacher preparation program.

² Excerpted from <https://dls.maryland.gov/pubs/prod/Educ/BlueprintOverview.pdf> (Page 11)

3. Professional Eligibility Certificate: Issued to an applicant who meets all certification requirements and is not currently employed in a MD local education agency.
4. Standard Professional Certificate I: Issued to an applicant who meets all certification requirements and is employed by a MD local education agency or a publicly funded nonpublic school.
5. Standard Professional Certificate: Issued to an applicant who completes the SPC I, is employed by a MD local education agency or publicly funded nonpublic school, and submits the following: verification of three years of satisfactory school-related experience, 6 semester hours of acceptable credit**, and a professional development plan for the Advanced Professional Certificate (APC).
6. Advanced Professional Certificate: Issued to an applicant who submits the following: 6 semester hours of acceptable credit**, verification of three years of satisfactory school-related experience; and meets one of the following standards: Earned a master's or higher degree from an IHE in a certification area directly related to public school education, including 6 semester hours related to the teacher's specific discipline or the specialist's specific assignment; earned at least 36 semester hours of approved content or professional education course work directly related to public school education, earned after the conferral of the bachelor's or higher degree, including at least 21 semesters hours at the graduate level, of which at least six shall be related to the teacher's specific discipline or the specialist's specific assignment; or obtained National Board Certification and earned a minimum of 12 semester hours of approved graduate course work, earned after the conferral of the bachelor's or higher degree and related to the teacher's specific discipline or the specialist's specific assignment.

Finally, there is a Montessori Professional Certificate that does not align closely with the other certificates. It is issued to an applicant who holds a bachelor's degree, has a valid credential from one of several accredited Montessori programs, and obtains passing score on a standardized Praxis test of reading teacher skill.

Certification is governed by the Professional Standards and Teacher Education Board. This semi-autonomous board is composed of 25 members appointed by the governor, and shares, with the State Board of Education, the authority to develop rules and regulations for the certification of teachers and other professional personnel and requirements for the preparation of teachers and other education personnel (Maryland State Department of Education, 2024b).

Other State Models

As noted above, Maryland was the only state we found with both a comprehensive career ladder framework and a tiered certification system codified in state policy. However, in our scan of other states we identified some promising practices within the separate pieces of an overall system. In this section, we highlight Iowa, Arizona, California, Kentucky, and Vermont.

Iowa

Iowa has the Iowa Teacher Leadership and Compensation (TLC) System. The goals of the TLC system are to

- Attract able and promising new teachers by offering competitive starting salaries and offering short-term and long-term professional development and leadership opportunities.
- Retain effective teachers by providing enhanced career opportunities.
- Promote collaboration by developing and supporting opportunities for teachers in schools and school districts statewide to learn from each other.
- Reward professional growth and effective teaching by providing pathways for career opportunities that come with increased leadership responsibilities and involve increased compensation.
- Improve student achievement by strengthening instruction.

Every school district in Iowa has implemented a TLC plan. With TLC funds from the Iowa Department of Education, districts implemented new and revised teacher leadership roles and teacher professional development approaches intended to strengthen classroom instruction and student learning (Nistler et al., 2018). The State of Iowa has almost 10,000 teachers serving in a teacher leadership role (Iowa Department of Education, n.d.).

The teacher leadership roles within the Iowa TLC system are separate from certification. Iowa code 284.15 describes the *Iowa Career Paths, Leadership Roles, and Compensation Framework*. The framework describes five career paths: Initial, Career Teacher, Model Teacher, Mentor Teacher and Lead Teacher. All teachers progress from Initial to Career Teacher. The model, mentor and lead teacher pathways are differentiated

opportunities for teachers to pursue to advance their careers. Adhering to the guidelines set forth in the career paths, leadership roles, and compensation framework, school districts establish these differentiated roles for teachers.

The certification types for teachers in Iowa resemble a ladder, but the types of certifications in Iowa are not exactly the same as the career paths described in the *Iowa Career Paths, Leadership Roles, and Compensation Framework*. As in the framework, teachers move from an *Initial Teaching License* if they have completed an approved preparation program, and although they have a different name, the second stop is also for all teachers. The certification for all teachers is the Standard Teaching License, earned after two years of successful teaching in an Iowa public school or three years in a private school or out of state setting. Following is where certification and career pathways In Iowa diverge. There is one Master Educator Teaching License, the requirement for which is a masters degree and five years of teaching. Unlike the teacher leadership roles within the districts that are supported by the TLC System, teachers' Standard Teaching License is automatically converted to the Master Educator once they have met these criteria.

Arizona

Similar to Iowa and Maryland, Arizona had a career ladder system that was separate from certification. The Arizona Career Ladder Program was a pay for performance system designed to help schools retain high-performing teachers and provide them with incentives to stay in the classroom. Due to a lack of funding the program never expanded beyond twenty-eight out of more than 200 districts throughout the state. In 2010, the program was found to violate the Arizona State Constitution's "general and uniform" requirement for public education because it lacked the funding to be available to all school districts in the state and has since been phased out (Rural Opportunities Consortium of Idaho, 2015; Arizona PBS, 2007).

Although a state supported career ladder system no longer exists, there are innovative, collaborative efforts between Arizona's state universities and school districts to develop the state's educator workforce.

- The Next Education Workforce located within Arizona State University’s Mary Lou Fulton Teachers College works with schools and other partners to 1) provide all students with deeper and personalized learning by building teams of educators with distributed expertise and 2) empower educators by developing better ways to enter the profession, specialize and advance (Arizona State University, 2024).
- The Pathways to Teaching Program at University of Arizona works with districts to grow their own teachers by supporting district partner-area residents in earning a bachelor’s degree in elementary education with an ESL endorsement. The program covers tuition through a combination of forgivable loans and scholarships, and candidates receive a \$1000 monthly stipend (University of Arizona, 2024).
- Northern Arizona University (NAU) is home to the Arizona Teachers Academy. The Arizona Teachers Academy is open to students in good standing who are enrolled in one of NAU’s qualifying educator preparation programs. The program offers a scholarship that covers tuition and covers licensure exam and teacher certification costs. In return, program completers must provide one year of service in an Arizona public school (i.e., district, charter, or Bureau of Indian Education school located in Arizona) for every year or portion of a year they receive an ATA Scholarship (Northern Arizona University, 2024).

California

California does not have a specific statewide career ladder system. However there are many local versions of career ladders meant to take district employees from “classified to certified.” It also offers some options to consider for reducing barriers to certification while keeping standards high. First, California permits school districts and other organizations to host educator preparation programs outside of IHEs, sometimes serving specific regions of the state and specific employing districts. It also allows some interns to serve as teachers of record while receiving substantial support. “University intern” and “district intern” roles both require a Bachelor’s degree and established basic skills and subject matter expertise; they allow interns to be paid while taking coursework through an educator preparation program. While these interns serve as teachers of record rather than co-teaching, a major difference is that “district intern” employers must commit to robust mentoring of the intern by a credentialed teacher and a professional development plan written in collaboration with an educator preparation program that includes substantial

preservice training. Allowing for regional and even local certification programs enables a great level of flexibility in reaching a strict set of state standards for certification.

Kentucky

Kentucky also allows local or regional certification programs, and county level expedited residency programs that offer substantial funding (\$30K) in addition to tuition for one-year masters degree in exchange for three years teaching commitment to the district. The state has programs to take paraprofessionals to certification through a local-university partnership that relies on mentors in the districts. Finally, they offer non-DOL apprenticeships to students as young as 9th grade who can earn college degrees and certification in two years post-high school.

Vermont

A partnership between Vermont-NEA, the Vermont Agency of Education, Vermont School Districts, Vermont Rural Education Collaborative (VREC), and VSU-Castleton specifically targets teachers hired under provisional status, to “jump start” their success and get them certified. It is a response to the fact that so many teachers are being hired with little to no prior formal training. This is an example of statewide collaboration that can result in better qualified teachers even when districts need to hire new staff with little preparation, especially smaller rural districts which may not have the depth of staff to support a number of these newer, less qualified teachers.

Status of Career Ladders in Maine

Career ladders have traditionally allowed teachers to move up vertically, to administrative and leadership roles. Career steps and increases in compensation have been based upon a single salary schedule that promotes teachers based on seniority and experience (Tournier et al., 2019). This has been the case within Maine.

In every school district across Maine, there are expert teachers and school districts draw upon their expertise and increase their responsibilities. Expert teachers in Maine are skilled as teachers, contribute to the work of teaching teams, design curriculum and assessments, conduct action research to improve their practice, mentor novice and

preservice teachers, and serve as leaders. Classroom teachers who take on additional roles, such as mentoring or designing curriculum and assessments, are typically stipended. In some cases, teachers are employed in designated leadership roles such as teaching principals, instructional strategists, curriculum coordinators, or math or literacy specialists. Among these only teaching principals, literacy specialists, and curriculum coordinators are codified as certification areas in MDOE rule Ch. 115.

Table 1. Current Maine Educator Career Levels and Certification Alignment

Position / Role Title	Certification	Description
Educational Technician (I, II, or III)	Educational Technician I (high school diploma), II (60 college credits), or III (90 college credits)	Paraprofessional roles with increasing responsibility for supporting classroom instruction. Level III may introduce new learning preplanned in consultation with the classroom teacher. They can perform short-term instruction with indirect supervision.
Resident / Intern <i>(Not a formal position title in MDOE staff data)</i>	Same job application requirements as Ed Tech III	Paid internship (co-teaching) role offered in only a few Maine districts. Not a teacher of record; increasing responsibility over time.
Classroom teacher: Serves as teacher of record; responsible for planning, delivering, and assessing instruction.	Emergency Teacher certification	One-year credential issued in shortage situations. Requires less than a bachelor's degree.
	Conditional Teacher certification	One-year credential issued to bachelor's degree holders who have not met all requirements for professional certification.
	Professional Teacher certification	Five-year credential issued to bachelor's degree holders who have met all requirements.
Specialized teacher positions	Special Education Teacher, Literacy Specialist, ESOL (Multilingual Learner) Teacher, Gifted and Talented	Similar step on career ladder to classroom teachers; teaches specialized student populations. Treated as distinct positions from Classroom Teacher in MDOE staff data collection.

Position / Role Title	Certification	Description
Teacher leader roles: Mentor, instructional coach, etc.	Professional Teacher certification (Same as classroom teacher)	Usually a very part-time (stipended) role, sometimes a half-time or full-time position.
Curriculum Coordinator	Curriculum Coordinator (considered an administrator cert)	Certification requires an advanced degree and an internship but is less specific/proscribed than other admin credentials.
Administrator positions	E.g. Assistant/ Building Admin (Principal), Teaching Principal, Special Ed. Admin, Asst./ Superintendent, etc.	Non-classroom positions that require additional certifications.

Like other states, teachers in Maine are encouraged to earn National Board Certification (NBC). State law, 20-A MRSA Section 13013-A; as Amended by PL 2012 c. 702 and Section 15689-A, subsection 12, provides that teachers who have attained NBC shall receive an annual salary supplement for the life of the certificate (MDOE, 2023b). In total, 441 Maine teachers have achieved NBC, and presently, there are 160 candidates for NBC from Maine (National Board for Professional Teaching Standards, 2024).

In 20-A ME Rev Stat § 13014, there was a certificate type for Master Teacher but it was repealed in 2017. The master teacher certificate was a five-year renewable certificate issued to an individual who has achieved additional professional standards. The master teacher certificate was to be issued to an applicant who:

- A. Possessed a professional teacher certificate;
- B. Demonstrated exemplary professional skills in classroom instruction and who may have additionally contributed to the profession in such areas as:
 - 1. Curriculum development;
 - 2. Teacher in-service training and effective staff development; or
 - 3. Student-teacher supervision; and
- C. Obtained what was their support system's positive recommendation based on the contents of a teacher action plan pursuant to section 13015.

It appears that rules for the master certificate were not developed over the period of time the certificate was in statute or prior to its repeal.

MDOE's Teach Maine advocates defining, recognizing, and compensating differentiated teacher leadership roles as a means to provide career ladder steps that support teacher retention. Teach Maine suggests a state-wide teacher leadership career ladder similar to the Iowa Teacher Leadership and Compensation (TLC) System (Maine Department of Education, 2023a) previously referenced.

Maine stakeholders expressed some support for a model like Iowa's and for recognizing different steps on a career ladder as certification types. One leader stated, "An extra credential that leads to more money and there is a high quality component to it makes sense." They saw potential for tiered credentials in order to elevate advanced educators and recognize their contributions as teacher leaders. However, they also cautioned against adding burdensome or inflexible requirements that would hamper districts' ability to hire or promote teachers. They advocated for credentials that could help teachers to showcase their advanced skill attainment, but stressed that local districts should have the flexibility to decide whether advanced credentials were a job requirement. This is particularly important in cases where an advanced role is stipended and not a dedicated position.

Iowa's TLC system is state funded, a mechanism stakeholders advocated for. Education leaders especially stressed that without state funding, less affluent communities would not be able to attract and retain advanced educators. Lastly, similar to the Teach Maine's point that the process for evaluation be based on clear expectations, stakeholders agreed that teacher leadership credentialing should be based on proven on-the-job competency. They suggested using a rubric as a possible option for considering multiple ways to demonstrate specific competencies. Education leaders by and large felt that either local or regional certification of teachers at these higher levels would be possible and preferable due to their concern for timeliness and responsiveness to local expectations for teacher quality.

Part II: Strategies for Initial Preparation: Residencies and Apprenticeships

To increase the number of teacher candidates prepared to enter the profession, the United States Department of Education has called on states to invest in evidence-based Teacher Residency Programs and establish teaching as a Registered Apprenticeship (U.S. Department of Education, n.d.-a). These pathways at the beginning steps of the career ladder are designed to recruit teachers into the profession. In addition, high quality initial preparation also has a downstream effect that increases retention. In each of the following sections, we describe the characteristics of *teacher residency* and *apprenticeship* programs, describe their current implementation status in Maine, and share stakeholder perspectives on the fledgling programs and their viability for recruiting new teachers and addressing teacher shortages.

Teacher Residency Programs (TRPs)

As Figure 1 (USDOE, 2013) above illustrates, resident teachers are at the beginning of the teacher career ladder. Borrowing from the design of medical residencies, teacher residencies were introduced in the early 2000's to provide an alternative pathway to teacher certification. There is no single uniform "model" for TRPs; specific elements vary from program to program. However, the definition of residencies has evolved to include the following shared characteristics:

- At least one year of paid clinical training in a classroom setting
- Pedagogical coursework that is aligned to classroom experience and students' needs (Guha et al., 2017; REL, 2017).
- Residents are not the teacher of record. They work under a mentor teacher's supervision and tutelage, continually reflecting on and developing their skills as teachers (USDOE, 2013).

Most are partnerships between university-based teacher preparation programs and school districts that are locally designed to meet the needs of the schools and communities they serve, including in rural, urban, and suburban areas. TRPs can be undergraduate, graduate or certification-only programs (Pathways Alliance, n.d.).

Residency models blur the lines between traditional and alternative teacher preparation programs. The Every Student Succeeds Act defined TRP's:

as a school-based teacher preparation program in which a prospective teacher, for not less than one academic year, teaches alongside an effective teacher, as determined by the state or local educational agency, who is the teacher of record for the classroom, receives concurrent instruction during the year, through courses that may be taught by local educational agency personnel or by faculty of the teacher preparation program; and in the teaching of the content area in which the teacher will become certified or licensed; and acquires effective teaching skills, as demonstrated through completion of a residency program, or other measure determined by the state, which may include a teacher performance assessment. (ESEA, Sec. 2002(5))

In other words, the resident learns how to teach by working with a highly trained experienced mentor teacher for at least a full academic year while also taking courses that are aligned with the classroom experience and required for certification (NCTR, 2023).

Residents are enrolled in teacher preparation programs that specifically offer year-long clinical practice placements (Prepared to Teach, 2023). The resident typically has job expectations to fulfill for the district in exchange for a stipend or they are employed by the district, usually in a paraprofessional role. If the local school district pays for a resident's salary (and possibly benefits) it may require the recipient to commit to teaching in the district for a period of time after completing certification requirements. This arrangement requires careful planning to allow the resident time to fulfill their paid duties and have opportunities to practice classroom teaching. If the resident receives a stipend that is paid by another source, such as a state or federal grant or scholarship, their time in school is more like a traditional student teaching experience and they do not need to commit to teaching in the district (Fallona & Johnson, 2019).

Researchers have examined TRPs and have identified key components that make a teaching residency effective. These include the following (Guha et al., 2016):

1. Strong district - university partnerships.
2. High-ability, diverse pre-service candidates recruited to meet specific district hiring needs, typically in fields where there are shortages.
3. A full year of apprentice teaching under supervision.
4. Coursework about teaching and learning tightly integrated with clinical practice.
5. Ongoing mentoring and support for graduates.

6. Cohorts of residents placed in schools that model good practices with diverse learners and are designed to help novices learn to teach.
7. Financial support for residents in exchange for a three- to five-year teaching commitment.
8. Carefully selected expert mentor teachers who co-teach with residents.

Strong TRPs result in more effective new teachers (Azar et al., 2021; Guha et al., 2016; NCTR, 2019). Specifically, the quality of the mentor teacher has a positive and statistically significant effect on the development of resident teachers (Goldhaber et al., 2020).

Residents were more likely to rate their programs as very effective compared to completers from other pathways. Residency completers reported on average, more intensive clinical experiences and support than student teachers (Patrick et al., 2023).

TRPs have also resulted in a more diverse pipeline into the teaching profession. In addition, those who complete teacher residency programs have higher teacher retention rates (Azar et al., 2021; Guha et al., 2016; NCTR, 2019). In these ways, teacher residencies can address teacher shortages, providing schools and classrooms with high-quality and diverse teachers, and with teachers who are less likely to turnover (Guha et al., 2016; NCTR, 2022; Rowland, 2023).

The Maine Teacher Residency Project (MTR)

TRPs are new to Maine and still in the developmental stage. Currently within Maine, the Maine Teacher Residency (MTR) project is the only example. MTR is not a stand-alone program, but instead works with existing preparation programs, including those pursuing transcript analysis, to develop opportunities for paid internships. Currently, MTR supports residents pursuing general education teacher certification in core subject areas.

The Maine Teacher Residency (MTR) is an infrastructure project for program design, coordination, recruitment, and training to create district-based teacher residencies across the state. MTR residents are student teachers/interns who are paid as residents or as general education technicians. The MTR also supports emergency or conditionally

certified teachers who are within one year fulfilling certification requirements; these individuals are not technically categorized as “residents” by the accepted definition as they are the teacher of record and not an intern. This design decision was made in response to district-identified needs as well as a desire to compare and contrast various models within the exploratory pilot project.

MTR provides \$3500 in tuition support to each resident (\$1750 per semester) to help defray their tuition costs. This is structured as a scholarship, not as a forgivable loan, and residents do not have a teaching service obligation. Perhaps more significant is the financial benefit they receive for being employed in the district where they complete their internship. By holding paid positions while pursuing coursework toward teacher certification, residents in the MTR avoid the major financial barrier of a traditional unpaid student teaching experience.

The MTR project also compensates each mentor with \$3000 for participating in ongoing mentor support activities. Mentors engage in monthly meetings that are a combination of peer-to-peer problem solving and more formal professional learning discussions focusing on the knowledge and skills for coaching residents. Mentors also pursue asynchronous learning through a micro-credential course (created by faculty at the University of Maine in the first year of the project), and will earn a mentoring badge upon completion.

The residents in the MTR have a variety of paid positions depending on their preparation program and the district where they complete their internship. These include:

- A model “co-teaching resident” position is offered through the Biddeford and Dayton School Departments. The Residency Education Experience (REE) began in 2020; residents are stipended by the district and share a classroom with an experienced teacher of record. They gradually increase their teaching responsibilities throughout the year. Applicants must be within one year of completing certification and bachelor’s degree requirements.
- About a quarter of participants are employed as Educational Technicians. Ed Tech roles can be adjusted to allow for general education student teaching / internship requirements when the ed tech is in a general education classroom setting. Managing both the job requirements and internship expectations requires

coordination between the preparation program and the employee's supervisor; the advantage for the resident is maintaining a full-time position with benefits.

- The MTR has adjusted its criteria to include candidates who have less intensive employment, either because their educator preparation program did not have flexibility or their cooperating district did not have funding for a position. These residents are "employed" as part-time substitutes; this arrangement trades income for a more flexible schedule.
- As noted above, the MTR also includes emergency and conditionally certified candidates who are responsible for classroom teaching while fulfilling missing certification requirements. These individuals do not meet the traditional definition of a "resident" but can still benefit from the tuition assistance and the support for their mentor teachers.

As a grant project funded through federal Congressionally Designated Spending (secured by Sens. Collins and King), MEPRI has been contracted to provide program evaluation services. We are tracking resident progress and collecting data from residents, mentor teachers, employing districts, and supervising faculty to capture the program implementation as well as emerging outcomes of the different employment models. Because the MTR encompasses a variety of approaches – both in the types of paid employment for participants and in the structure, delivery, and timing of university program courses and supervision – the pilot project is well-positioned to yield insights into the future of teacher residencies across the state. A report will be prepared for release in December 2024, as well as a final report to the funding agency the following year.

Registered Teacher Apprenticeship Programs (RTAPs)

Registered Teacher Apprenticeship Programs (RTAPs) are new to the field of teaching. As such, they do not have the evidence base that TRP's have developed over the course of the last twenty years. However, RTAPs are being developed based upon a long history of Registered Apprenticeships as a high quality career pathway where employers prepare their future workforce, and individuals obtain paid work experience, receive progressive wage increases, classroom instruction, and a portable, nationally-recognized credential (<https://www.apprenticeship.gov/employers/registered-apprenticeship-program>).

The Registered Apprenticeship Program was established in 1937 by the National Apprenticeship Act, also known as the Fitzgerald Act. With its most recent reauthorization in 2021, the United States Department of Labor (USDOL) is able to enter into an agreement with the USDOE to promote the integration and alignment of apprenticeship programs with secondary, postsecondary, and adult education (H.R.447). A number of apprenticeship occupations in the Education industry have been approved by the USDOL including principal, K-12 teacher, early childhood educator, and teacher’s aide (USDOL, n.d.; National Center for Grow Your Own, n.d.). Registered apprenticeship programs for these occupations can be designed as a career ladder, beginning with preparation to become an educational technician through preparation to become a principal.

Registered apprenticeship programs allow candidates to earn their credential while earning a salary (USDOE, 2023; U.S. Department of Labor, n.d.). They combine paid on-the-job learning (OJL) experiences with job related training and instruction (RTI) which can include educator preparation program coursework that meets certification requirements. Registered apprentices work for at least one year under the supervision of a mentor/journeyworker, progressively increasing their levels of responsibility and autonomy during OJL, developing and demonstrating competencies outlined in a Schedule of Work. The competencies that apprentices must demonstrate through the Schedule of Work are aligned with professional standards such as InTASC Model Core Teaching Standards (NEA-AFT, 2022). Registered apprentice programs are designed to meet state licensure and certification requirements, and apprentices earn a portable, nationally-recognized credential within their industry, the USDOL Certificate of Completion of Apprenticeship (U.S. Department of Labor, n.d.).

Unlike the career ladder for teacher residencies which begins with the student teaching internship to become a teacher, RTAPs must be progressive. They are typically a part of an overall educator pipeline beginning with pre-apprenticeship for students in high school, moving to registered apprenticeship for paraprofessionals, then to registered apprenticeship for teaching, and even to advanced levels such as principal positions (a recent addition to the registered apprenticeship landscape).

Registered Teacher Apprenticeship Programs (RTAPs) in Maine

As with residencies, RTAPs are new to the Maine teacher preparation landscape. Presently, there are a limited number of RTAPs in Maine related to education, but the Departments of Labor and Education are partnering to expand registered apprenticeship opportunities within the field of education in Maine. Maine RTAP apprentices are long term substitutes or educational technicians who may progress from educational technician I, II and III to certified teacher over the course of multiple years. All of the existing programs are for special education teacher preparation.

Current Registered Apprenticeship Programs include Washington County Community College's Tech 123 which is an Ed Tech Pathway Program and Gorham School District's Registered Apprenticeship Program. Gorham Schools offers their program in collaboration with Southern Maine Community College (SMCC), the University of Southern Maine (USM) and other preK-12 school districts. The program has two phases. During Phase One, apprentices are employed as an Ed Tech I or long-term substitute and are enrolled in the SMCC education program where tuition is free. This results in Ed Tech II certification and an Associates Degree in Education. Apprentices in Phase Two are employed as an Ed Tech II and enroll in USM's educator preparation program for special education. Candidates progress to Ed Tech III while in the program, and upon completion, they earn a Bachelor of Science in Special Education from the University of Southern Maine and are eligible for special education teacher certification.

Recently, the University of Southern Maine was awarded additional funding to expand this program and establish a Cumberland County regional registered apprenticeship where school districts will use the same Schedule of Work for On-the-Job Training skills and Related Training and Instruction and coordinate projected staffing needs as part of a sustainable pipeline of paraeducators and teachers. Five other programs were also awarded funding to recruit, train, and retain educators through pre-apprenticeship and apprenticeship pilot programs. This funding was awarded to Brunswick School Department, Portland Public Schools, MSAD 1 / RSU #79, RSU#34, and the University of Maine Farmington.

Future Potential: Residencies Within Apprenticeships

RTAPs offer states the opportunity to incentivize strong models that can help them strengthen, diversify, and stabilize the teaching workforce (USDOE, n.d.-a). While Maine has only adopted the registered apprenticeship model for special education, the potential exists to apply the framework within general education preparation pathways.

Prepared to Teach, a national organization that incubated at Bank Street College in New York, coined the term Registered Teacher Residency Apprenticeship to signal a specific kind of registered apprenticeship that integrates a residency model into the phase in-between paraprofessional and beginning teacher (Prepared to Teach, 2023).

Nationally, this link between TRPs and RTAPs exists. The first RTAP that was approved in January 2022 includes a teacher residency stage. The Tennessee Teacher Occupation Apprenticeship program was established as a permanent Grow Your Own model between Clarksville-Montgomery County School System and Austin Peay State University's (APSU) Teacher Residency program. Upon completion of the program, residents obtain initial licensure in Elementary K-5, with an endorsement in Special Education Interventionist K-8. Teacher residents are paired with a mentor teacher in their school and receive support from APSU faculty and staff. Residents may earn an Associate of Science in Teaching degree at a local community college before transferring to Austin Peay to complete their bachelor's degree. Residents are hired and paid by the school district and receive free college tuition. The funding sources are sustainable federal and state workforce dollars (Tennessee Department of Education, (2024)).

Within Maine, RSU #34 has created an Educator Accelerator Program so that the district could play a role in developing people who will meet future needs of the school district. For the last five years the program has been funded using a federal grant. In late 2023, the district was awarded DOL funding to support the development of a RTAP, making it the first registered apprenticeship in Maine to include general education in its scope. Through the district's Educator Accelerator Program, pre-service educators are hired to work in the district's schools, gaining experience, training, and mentoring. RSU #34 developed this program in coordination with the University of Maine, Husson University,

Eastern Maine Community College, and the University of Maine - Augusta's Bangor campus, so that college students preparing to be educators could meet their field experience requirements in combination with supervised and paid work in the schools. Because RSU #34 also participates in the Maine Teacher Residency Project, pre-service educators employed through the Educator Accelerator Program may progress through their teacher preparation program and become eligible to be a Resident during their student teaching internship. Through a competitive application process, promising aspiring educators are hired and placed in schools with a mentor teacher. Some days those in educator accelerator positions work in their mentor teacher's classroom, helping to meet students' individual needs and other days they meet critical substituting needs in their school. The pre-service educators benefit from additional training by RSU #34's teachers and administrators, beyond what they'd get in their normal coursework and from the collaboration with and feedback from their mentor teacher. The sheer amount of extra time in the classroom working with students is of great impact. Under this program, these educators-in-training are getting hundreds more hours in the field working with students, part of the intent of the program for RSU #34.

Maine Stakeholders' Perceptions of Residencies (TRPs) and Apprenticeships (TRAPs)

Most educational stakeholders we interviewed across Maine had limited understanding of how teacher residencies and apprenticeships work. However, those who had some familiarity conveyed positive perceptions of the models. A general consensus was that they are models of preparation that are mutually beneficial to teacher candidates and to schools. However, they also expressed reservations about codifying the role of resident or apprentice teachers in Maine Department of Education (MDOE) rule chapter 115, the rule that articulates the standards and procedures for credential education personnel as well as the requirements for specific certificates and endorsements.

One school district leader said that the "advantage of residency is it is purposeful." This statement was made in contrast to entering teaching as a conditionally certified teacher, which the leader described this way: They "come into the field on conditional and then take one class here and there, incoherent, not purposeful. If they came in as a resident

this can be purposeful.” With a residency, the resident is guided to enroll in appropriate coursework.

Leaders regarded the residency model as perfect for those entering teaching through traditional pathways because they teach in the final year of school and are paid. For example, one leader shared that he has an elementary school aspiring teacher who is part of the MTR through the University of Maine at Presque Isle. “They are in the school the full year, sub at least two days a week, and the second semester is student teaching. She is making substitute money and a stipend for tuition credit.”

Like teacher residencies, apprentices are paid. Referring to apprenticeships, stakeholders suggest, “any opportunity where they get paid and trained is a good idea, especially teaching.”

Registered apprenticeship was perceived by stakeholders as a “non-traditional pathway,” an “ed tech to teacher” model. A benefit stakeholders reported is that “through this pathway they can bring in career changers.” Another is that the “program allows them to take coursework that's relevant, and then applied instantly in the moment to their situations.”

This statement was notable because it contrasted with an overall theme amongst stakeholders that there is a gap between traditional teacher preparation coursework and on-the-job expectations. For example, one superintendent complained that the content of typical courses is dated. He stated, “Education courses should be relevant. Courses are teaching what I learned in 1986.” Additionally, leaders suggest that prospective teachers enrolled in teacher preparation programs need more experience in schools. One superintendent suggested an experience similar to student teaching should be earlier in their preparation. Another leader elaborated, “If you are not getting dirty in there, you are certainly not looking at the full picture of what school is.” The general consensus was “having people get into the district earlier in their pathway is better,” and that this was an appealing characteristic of RTAPs.

An additional advantage leaders noted with respect to RTAPs and RTPs was the ability to get to know teacher candidates prior to hiring them. According to one leader, “the

more we can see the people who will work for us the better.” Another noted, they are “learning who they are before making the investment to hire them, which is good.” A third leader stated, “If they don’t get it after that year, we know they won’t be working for us.” Additionally, those who are hired need less support “to go into teaching because they understand how school works.”

Although stakeholders regarded positively the extended time that teacher residents and apprentices spend in schools learning to teach, they expressed concern related to the workload involved, particularly for those residents who are conditionally certified teachers of record. As one superintendent said, “All day teaching and then heading out to school is too much.”

When asked for the remedy they say, “don’t lighten quality.” Stakeholders seek greater flexibility for demonstrating knowledge and skill. They would like to see work embedded opportunities to earn credits. For example, a superintendent proposed that candidates “should get 15 credits in college and 15 credits on the job in schools.” Others agreed, supporting an approach that reduced the number of required courses and increased opportunities to demonstrate competency through their experiences in schools as residents and apprentices.

When asked about whether the role of resident or apprentice should be a distinct type of certification in Maine Rule Ch. 115, leaders did not see a benefit to codifying this level of the career ladder or these roles in teacher certification. According to one district leader, certification “creates more hurdles.” Another leader asked, “Why credential interns/residents? It costs them money and time. It is a barrier and it costs money for those with low paying jobs.”

Part of the concern was that if teacher residencies and apprentices were in Ch. 115, there would also be requirements placed on local districts and “that would be too much, if there were too many residents or apprentices.” Some districts that already had residents and apprentices used ESSR funds to hire them, and, as they pointed out, that “won’t last forever.” Other districts hired residents or apprentices to fill educational technician or long-term substitute vacancies, but there were also others who conveyed they “don’t have

money to pay interns or time to search for money – move money around or apply for opportunities like registered apprenticeships.”

In addition to the challenge of funding teacher residencies or apprentice positions, tuition was noted by leaders as a big expense related to teacher residency and apprentice programs. Identifying funds for tuition is needed for RTPs and RTAPs to be sustainable. As one leader stated, “There are nationwide shortages of educators in almost every role, so it’s important that we reduce financial barriers to help people finish their preparation at our colleges and universities.” According to another leader, residencies and apprentices “would help meet a statewide need” and proposed a “shared funding model” between the state and school districts.

Finally, stakeholders also expressed reservations about whether RTAPs and TRPs are an adequate solution to addressing teacher shortages. Due to the current crisis, their Ed Techs are more novice “because people are desperate to hire.” The same is true of novice teachers who “might be on conditional or emergency” certification. As one leader noted, “They don’t have the full toolbox from ten years ago, and they have added stress of taking classes, and coming into a stressed system of kids, and then the adults have less time. They are too stretched to serve needs.” Considering these circumstances, the leader questioned whether teacher residencies or apprenticeships would address the problem of teacher retention, asking, “Is this going to reduce the number of people who will persevere past a few years?”

This question was raised because the new pathways to teaching will not address the stressful working conditions that result in teachers leaving the profession. The leader went on to say, “We will continue to lose people. Not being able to be effective at work, mission-oriented people might stay, but maybe those on the edge may be more likely to say forget it.” Stressful working conditions are a barrier to retention and undermine recruitment efforts like teacher residency and apprentice programs.

An important note for Grow Your Own models like residencies and apprentices was that not all educational technicians want to be teachers. For example, a leader stated, “Ed Techs often choose this job due to “lifestyle” choices and don’t want to grow into teachers.”

Additionally, they noted the challenge for rural schools. Leaders described the challenge of supporting TRPs or RTAPs. First, there is the challenge of recruiting candidates for registered apprentices and residencies. One leader proposed, “We need a separate teacher pipeline.” Second, if you do identify candidates, the rural leaders noted “you train them and lose them.” There is a “drain of talent from the rural fringe.”

So, for these pathways to be successful in addressing teacher recruitment and retention, the perception amongst stakeholders was that they need to address the barriers they noted. Further, according to one leader, “We need aggressive aiming and firing - trying things out right now and investing in promising practices and continuing to iterate.” Another suggested, “We need a k-16 group. It would be an ad hoc group, college people in the same room with k-12.”

Summary

Career ladders, teacher residencies, and teaching apprenticeships are being employed by states to elevate the profession and improve teacher recruitment and retention. A complete career ladder provides opportunities for both prospective and experienced teachers. In the early steps of the ladder, programs that reduce financial barriers can attract new candidates to the field. When paired with high-quality professional learning and coaching, such programs also set them up for longer-term success (and thus retention). Options for teachers to further develop their skills and take on additional responsibilities are provided at the advanced steps of the career ladder; these may be achieved through formal study such as master’s degree programs, or through individual professional development.

In residency and apprenticeship programs, novice teachers have the opportunity to learn to teach and be paid. In addition, high-quality programs provide intentional, integrated theory to practice experiences and are supported by experienced teachers. These paid opportunities offer new pathways for individuals to enter the profession and may be a tactic to address the teacher shortage.

The minimum full year of clinical experience under the supervision of an experienced mentor who is an effective teacher and the teacher of record provides the

necessary skills and experience needed to become an educator. Evidence from apprentice programs in other fields as well as research on the twenty-year history of teacher residencies indicate that these programs improve quality and result in higher rates of retention. TRPs and RTAPs can create stronger connections and meaningful collaborative partnerships between schools, university educator preparation programs and the communities by advancing grow your own programs to strengthen, diversify, and stabilize the workforce (Holdheide et al., 2023).

Part III: Policy Options

Career ladders that include teacher residencies and registered teacher apprentice programs as well as differentiated opportunities for expert teachers are promising programs for addressing teacher recruitment and retention, but must not be done in isolation. Consideration must also be given to other factors that increase the professionalization of teaching such as improving working conditions and increasing teacher pay, which have been found to have a greater impact on recruitment and satisfaction. Setting appropriate standards for each level of credential also facilitates respect for the profession, but flexible preparation approaches must be sought to minimize barriers. Solving for the problem of educator shortages requires a comprehensive vision, a systemic plan, and targeted investment for developing and implementing policies and programs.

Through our research we learned that in most states there is a distinction between career ladder and teacher certification policy. State policies that define steps of a career ladder for educators do so separately from, and do not directly align with, certification levels. Rather, they provide a framework for career progression and provide guidance on implementation. Further, most state-level career ladder policies allocate funds to support LEAs' development and implementation of a career ladder, often stipulating criteria for districts to be eligible for state funding.

The Maine stakeholders we spoke to did not have much of an appetite for expanding certification levels to include additional expectations. Although absent the teacher voice, the administrator consensus was to forego more complexity in favor of streamlined

certification requirements. Stakeholders spoke to the lack of financial resources as a primary reason for maintaining the status quo when it comes to certification. For this reason and the burden new certification requirements could place on local school districts, Maine policy makers may want to consider a model similar to states where the development of career ladders is in statute and separate from certification rules. As is the case in other state policies, a new statute might define career ladders, offer a framework for school districts to use in the development of their career ladders, provide guidance on implementation, and allocate funding to support the development and implementation of career ladders.

However, adding new certification types within MDOE Rule Ch. 115 may yet serve as one lever for transforming teaching from a flat profession to one that is more dynamic. Codifying roles for paid internships through teacher residencies or apprentices and for master teachers would provide districts with a scaffold for recognizing differentiated roles for educators at various steps of a career ladder. Table 2 presents possible options for new certification types within MDOE Rule Ch. 115 as well as the potential advantages and considerations for policymakers.

Table 2 Options for New Certification Types within MDOE Rule Ch. 115

Description	Potential Advantages	Considerations
Option 1: Add Intern / Resident Certification		
Add an Intern (or Resident) Certification for preservice teachers in paid positions such as resident or apprentice.	Distinguishes preservice teachers from other paid positions in schools, thus clarifying roles and expected scope of responsibility. Facilitate a new pathway to certification (see option 4). Possible means to target new/emerging funding sources for interns.	Criteria for intern certificate very similar to Ed Tech III; potentially redundant. Definition of intern and roles they may assume. Costs to preservice teachers. Collective bargaining to establish interns as paid or stipended district employees.

Description	Potential Advantages	Considerations
Option 2: Reinstate Master Teacher Certification		
Reinstate Master Teacher Certification for expert teachers, including those who have NBC or comparable demonstrated competency as a teacher.	Differentiates expert teachers from others with the same years of experience. Recognizes teachers who take on additional roles and responsibilities.	Criteria for a master teacher certificate and its renewal. Identifying master teachers and roles they may assume. Costs to teachers and/or districts to meet the criteria and obtain a master teacher certificate. Collective bargaining to consider master teacher as a differentiated role with additional compensation on the pay scale.
Option 3: Create Teacher Leader Credential		
Rename the curriculum coordinator administrative credential (078)	A more general title would encompass more types of roles, notably instructional coaches/supervisors.	Existing credential already specifies “instructional supervisor” as eligible role Potential for unintended inflation in job requirements (e.g. mentor teachers)?
Option 4. Add a new grow-your-own certification pathway in Ed. Rule Ch. 115.		
Add a Pathway 3 option for teacher endorsements in Ch 115 part II	Recognize the distinct context of paid internship/ residency / apprentice arrangements, where oversight is shared between an approved preparation program and the employer.	Need to define/codify district responsibilities in mentoring and assessing candidates for the profession, separate from criteria for employee supervision.

There are potential advantages to adding certification types to codify roles at each end of the career ladder. First and foremost is the acknowledgement that teaching should not be a flat profession. There are varying levels of expertise amongst teachers, and teachers throughout Maine assume different roles and responsibilities depending upon

their expertise. Additionally, levels of certification that acknowledge expertise from novice through master teacher might foster greater understanding of the differentiated roles that teachers can and do play as leaders and members of a team of educators who support students. Intern certification would recognize preservice teachers in paid positions in schools, and master teacher certification acknowledges teachers who take on additional roles and responsibilities and differentiates expert teachers from others with the same years of experience.

An intern certification at the beginning rung of the career ladder would also be potentially advantageous if, in combination with the new certification, MDOE Rule Ch. 115 included a third pathway to certification. “Pathway 3” would be reserved for those in approved TRPs or RTAPs. Completion of an approved TRP or RTAP would waive the student teaching requirement outlined in Pathway 2, and also allow more flexible formats for professional learning other than the proscribed 3-credit college courses. This third pathway might also pave the way for revisions to alternative pathways in MDOE Rule Ch. 114 to 1) incentivize school districts and educator preparation programs to partner with one another to develop TRP’s or RTAPs as high quality alternative pathways that address schools’ critical needs, and/or 2) possibly do as other states have done and expand the eligibility of the types of institutions or entities that can seek and earn state approval to offer an educator preparation program. We recommend this eligibility be limited to programs that include the characteristics of effective teacher preparation programs cited in the body of this report. For example, Regional Service Centers could be empowered to grow their own teachers by developing state-approved TRP or RTAP programs for teacher certification, either independently or in partnership with institutions of higher education.

The potential advantages to developing new certification types for intern and master teacher cited in Table 2 indicate that they may be worth policymaker consideration. Among the implications is the need to delineate the roles within schools that those holding these certifications may assume. For each role, consideration must be given to the competencies needed, how they will be developed, how they will be evaluated and by whom. There was a consensus amongst stakeholders with whom we spoke that this could be done regionally through a combination of coursework, performance-based assessments,

and/or professional experience. Thus, this might be another function assumed by Regional Service Centers.

Adopting new types of certifications requires consideration of costs and how they will be funded. Steps to adopt career ladders, whether as part of certification or as a separate policy, should include funding to support them. As one leader stated, they “need a funding mechanism that allows you to train them and keep them, an incentive to stay” and another noted “unfunded mandates are not popular.” Adding these new certification types bears a cost to the individuals who are pursuing the intern or master teacher certification so the benefit needs to outweigh the costs. A key benefit to individuals is compensation. The additional compensation for master teachers as well as paid residency or apprentice positions require funding. Other states have appropriated funds for these purposes. Policymakers should consider whether this is feasible in Maine. As some are already pursuing, there is funding through the Department of Labor for RTAPs. There are also federal funding sources such as ESSA Title II funds and portions of Perkins V funds that might be redirected to support career ladder efforts. However, reallocation is a challenge as these funds are already dedicated to areas of need. Additional competitive federal funds may be available through the Teacher and School Leader Incentive Program, Teacher Quality Partnership grants, State Personnel Development Grants for special education, or the National Science Foundation’s Robert Noyce Scholarship Program.

A final consideration is governance. K-12 leaders suggested that they currently lack a role and would like more voice in this process. Policymakers in Maine might consider adopting a more collaborative model for oversight. As noted in our scan of Maryland, they have a Professional Standards and Teacher Education Board that includes various stakeholders from K-12 and EPP’s that share the authority and responsibility for developing rules and regulations for certification and for assuring the quality of educator preparation. A coordinated system would consider the evidence base as well as federal policy requirements in an effort to assure quality teacher preparation and teaching. It would help to assure that all of Maine’s policies related to teacher preparation, certification, evaluation and support are not only based upon the most recent research evidence but also work in concert with one another. Key stakeholders including members

of the Education and Cultural Affairs Committee, the State Board of Education, Maine Department of Education, IHEs that offer teacher and leader preparation, and organizations like the Maine Education Association and those representing Maine school leaders should have a policymaking role relating to teacher quality in Maine. Greater coordination would serve to elevate the profession and result in a coordinated effort focused on recruiting and retaining high quality educators for Maine's children.

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