LEARNING POLICY INSTITUTE

remake learning

Preparing Pennsylvania Teachers to Remake Learning

A Review of State Policies

Ryan Saunders, Tara Kini, Linda Darling-Hammond, and Maria E. Hyler

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Acknowledgements

Introduction

In the last decade, mountains of reports have been written in countries around the world about the need for more powerful learning focused on the demands of life, work, and citizenship in the 21st century.[1] The process of managing decisions and solving social and scientific problems in contemporary democracies is growing ever more complex. In the early 1900s, when our current school system was designed, only 5% of jobs required specialized knowledge and skill; today, more than 70% of jobs are "knowledge work" jobs that require the ability to acquire and use specialized information, manage nonroutine tasks, and employ advanced technologies.[2]

Employers have increasingly called for schools to produce "21st century skills" that require "deeper learning"[3]—the abilities to engage in high-level reasoning, transfer knowledge and solve problems, understand content and how to apply it, as well as how to go further to research new information and ideas, analyze and evaluate that information, synthesize it, and produce new analyses, ideas, solutions, and products. In addition, young people need to be able to collaborate effectively with others and communicate their ideas in many forms, assess and improve their own work, and be resourceful and persevering in the face of social, political, and scientific challenges.

To meet these demands, virtually all states have enacted more ambitious standards for learning tied to new curriculum expectations and assessments. These standards expect students to master more challenging subject-matter content, as well as to think critically, create more sophisticated products, and solve complex problems, rather than merely to perform routine tasks. The standards press for deeper understanding and for student proficiencies in applying knowledge that require far more than rote recall of facts or application of rules and algorithms.

And, given the increasingly high demands of most 21st century jobs, teachers are being asked to achieve these goals for *all* children, not just a small minority who have traditionally been siphoned off into gifted and talented programs or advanced courses. Furthermore, students have more wide-ranging needs associated with language and learning differences, as well as the health and social needs associated with high rates of childhood poverty and homelessness.

A critical question facing Pennsylvania, like other states, is how can we prepare those who enter the teaching profession to teach diverse students for deeper learning—and, in so doing, to teach for equity and social justice as well*?*

Defining Teacher Preparation for Deeper Learning

Building on knowledge from the learning sciences, we define deeper learning experiences as having the following five features:

1. <u>Learning that is developmentally grounded and personalized</u>: Learning experiences build on prior knowledge and experience, and account for learners' active construction of new knowledge. Learning connects to who students are, as well as to what they already know, attending to both cognitive and social-emotional considerations. School tasks are scaffolded according to students' needs, intrinsically interesting based on their experiences, and appropriate to their level of development.

2. <u>Learning that is applied and transferred</u>**:** Learning experiences enable students to apply and transfer content knowledge to novel and complex problems, with ideas tightly connected to real-world problems and settings through challenging, authentic activities that promote mastery learning and critical thinking. Clear standards and performance feedback, including the use of formative and performance-based assessment, promote complex cognitive development.

3. <u>Learning that occurs in productive communities of practice</u>**:** Learning is an active, interactive, constructive, and iterative process. Well-designed and well-tended social interactions allow students to support one another's learning, combining their different knowledge and experiences into the collective knowledge and experience of the learning community, and helping students to move from peripheral to core participation in subject-matter learning connected to real-world activities. School and classroom communities are built on an ethic of caring, offering supports for social/emotional development, trusting relationships, and restorative practices to create productive environments for student learning.

4. <u>Learning that is contextualized</u>**:** Learning that is embedded in meaningful contexts and applications builds on students' personal, cultural, family, and community experiences. Learning is connected to students' experiences and is based on a deep understanding of these contexts for development, as well as ongoing communication and connection with parents, caregivers, communities, and the world beyond school.

5. <u>Learning that is equitable and oriented to social justice</u>**:** Learning experiences are designed to meet diverse students' needs, to reach all students, and to teach them well. All students have access to rich, supportive curriculum experiences that acknowledge and incorporate their social locations and "status" in the larger society, and are constructed with an awareness of race, class, and other characteristics that shape student experiences. Teachers consider students' unique identities as strengths and resources; they link social justice values to principles of learning and development by working explicitly to ensure that all students are supported, taking a critical stance, and avoiding deficit thinking.

A current study by the Learning Policy Institute has found that programs which prepare teachers for this kind of deeper learning distinguish themselves from traditional teacher education programs in two ways. First, they intentionally make teacher preparation itself a deeper learning experience for candidates. Second, the deeper learning practices that candidates experience in the program are those that the programs expect them to use as teachers in their own classrooms. In addition to this vision for the classroom, successful programs integrate the following key practices:

- a pervasive vision of inquiry-oriented teaching and student-centered practices guiding a coherent set of courses and clinical work;
- coursework interwoven with clinical work so that what is learned can be immediately applied and practiced;
- a curriculum that focuses on children's learning and development in social contexts;

- opportunities for candidates to learn deeply how to design curriculum and teach in inquiry-oriented ways within the disciplines (content-specific pedagogy);
- how to create and use authentic assessments of, as, and for learning;
- how to create classroom learning communities that support social and emotional as well as academic learning;
- modeling of deeper learning strategies within the courses in the teacher preparation program so that candidates experience the strategies they will ultimately use in their teaching;
- extensive clinical work (typically a full year of student teaching) with well-trained cooperating teachers/mentors who also model these practices; and
- intensive relationships with schools committed to teacher development and to the creation of equitable contexts for learning.

Along the way, each of the instructional practices includes scaffolding—that is, providing and adapting the support given to teacher candidates by more capable others as they move from being novices to more expert practitioners of teaching for deeper learning.

Thus, preparing teachers for deeper learning requires attention to the nature of the curriculum in the teacher education program, the way in which that curriculum is taught, and the nature of the clinical experiences, as well as how they interact with coursework. The necessary practices are sophisticated and require great purposefulness in development, especially considering many candidates may not have experienced them in their own k-12 education.

Overview of This Report

The following report is the product of a collaboration in Western Pennsylvania between 10 colleges and universities responsible for producing the majority of teachers in the region, including: California University of Pennsylvania, Carlow University, Chatham University, Duquesne University, Penn State New Kensington, Point Park University, Robert Morris University, Slippery Rock University, University of Pittsburgh and the West Pennsylvania Writing Project, and West Liberty University. Additionally, the following school districts served as thought partners in support of this work: Avonworth School District, Elizabeth Forward School District, Northgate School District, and Pittsburgh Public Schools.

This teacher preparation working group was facilitated by the Remake Learning[4] network, a network that ignites engaging, relevant, and equitable learning practices in support of young people navigating rapid social and technological change. These members of the Remake Learning network met multiple times in 2017−18 to share best practices and identify opportunities to strengthen teacher preparation in order to advance deeper student learning across the state. (See Appendix A for a list of members.) The group ultimately settled on teacher licensure and preparation program accreditation as the focus of their policy efforts and have sought to identify the levers by which Pennsylvania's systems of licensure and preparation program accreditation could be refined to support more innovative clinical practice models, deeper collaboration between districts and teacher preparation programs, and a more diverse teacher workforce.

This report provides a systems-level landscape analysis of Pennsylvania's teacher licensure and preparation program approval and accreditation policies as they pertain to teacher preparation for deeper learning. Recommendations made at the end of this report are meant to support the movement across the state toward deeper learning—or remaking learning—and reflect the priorities of the Remake Learning Teacher Preparation working group. Throughout the report, we use the terms "remake learning" and "deeper learning" interchangeably, encompassing the type of learning that is necessary for all children to be prepared for demands of life, work, and citizenship in the 21st century.

Overall, we find that while language within Pennsylvania's teacher licensure standards indicates attention to important elements of teacher preparation for deeper learning, there are gaps that, if filled, would support the movement of all programs to develop these necessary skills in new teachers and would support the collection of relevant data to inform the progress of both teachers and programs toward the principles of deeper learning.

This report proceeds in four parts. Part I provides data on Pennsylvania's teacher workforce, including information on the current state of teacher shortages and teacher turnover in Pennsylvania, along with data on the distribution of teacher preparation programs and enrollment across the system over the past 8 years. In Part II, we provide an overview of past and current efforts to strengthen teacher preparation in Pennsylvania, detailing efforts outlined in Pennsylvania's plan under the Every Student Succeeds Act, as approved by the U.S. Department of Education. In Part III, we explore the alignment of Pennsylvania's teacher licensure and accreditation systems with the principles of teacher preparation for deeper learning described above. In Part IV, drawing on research, policies from other states, and input from pre-service educators in Western Pennsylvania, we outline a set of state policy recommendations regarding Pennsylvania's current licensure and accreditation systems that could help provide more direct support of teacher preparation for deeper learning across the state.

Part I: The Teacher Workforce in Pennsylvania

While this report primarily addresses how Pennsylvania teachers are prepared for the new demands of society and the economy, the extent to which teachers receive preparation—and the kind that they receive—is, in part, a function of the extent to which the state experiences shortages that cause standards to be set aside for entrants to teaching. Thus, we begin with a brief look at the teacher workforce and labor market conditions in the state.

For the 2016–17 school year, there were 119,763 teachers working across the state of Pennsylvania with an average of 13.5 years of experience in the classroom. Seventy-three percent of teachers are female, and over half have an advanced degree. In 2015–16, the percentage of novice teachers in their first and second year of teaching in Pennsylvania was 9.8%, an increase from 2013–14, when 7.53% were novice teachers.[5] In 2017–18, only 6.1% of Pennsylvania's classroom teachers were persons of color, compared with 33.5% of the state's public school enrollment.[6] Proportionately, this is about one-third as many teachers of color as is true in the national teaching force (about 20%), which at the national level is itself far too low to meet demand.[7]

Teacher Shortages in Pennsylvania

Pennsylvania currently faces growing teacher shortages based on state analyses and statewide data on the number of individuals teaching under emergency certification. For the 2017–18 school year, the state has designated the following subjects as shortage areas: English as a Second Language (pre-K–12), Fine and Performing Arts (pre-K–12), Foreign Languages (pre-K–12), Sciences (7–12), Mathematics (7–12), Special Education (pre-K–12), and Vocational Education (7–12). In addition, 33 school districts across the state have been designated as geographic areas with an inadequate supply of elementary or secondary teachers.[8] As highlighted in the state's 2015 educator equity plan, shortages mean students in the schools serving the highest percentage of students eligible for free or reduced-price lunch and students of color are being taught by unqualified, not highly qualified teachers.[9] Of districts designated with the greatest shortages, Allentown City, Philadelphia City, and Pittsburgh Public serve populations that are predominately students of color.[10] As in other states, shortages vary by location and subject area.

The Pennsylvania Department of Education (PDE) estimated that, in the 2015–16 school year:

- **The state had a shortage of 1,428 full-time equivalent (FTE) positions.** This estimate is based on the number of teachers on emergency permits and the number of projected retirement vacancies that would go unfilled due to an undersupply of new teachers. However, the count likely underestimates shortages, because it does not include the total number of teachers underprepared for their assignments, such as teachers on intern certificates or teachers who are defined as "not highly qualified."[11]
- Furthermore, **440 teachers were enrolled in one of the state's alternative routes** into the profession and had not yet completed the requirements for teacher licensure.

Additionally, the number of newly issued in-state Instructional I teaching certificates has dropped 71% since 2009–10, from 15,247 to 4,412 in 2016–17.[12] While Pennsylvania's teacher shortage

is not yet as severe as in some other states, the subjects and locations hit hardest by shortages across the state demonstrate a need to effectively recruit and prepare future teachers with these gaps in mind. Currently, however, there do not exist targeted state programs—such as service scholarship or loan forgiveness programs that many other states have—to incentivize candidates to train for and enter the fields and locations where they are most needed. It is also important to consider the negative impacts of turnover on locations and schools struggling to retain quality educators.

Turnover in Pennsylvania's Schools

While teacher shortages and teacher turnover are not as severe in Pennsylvania as in many other states, the state follows the national trend in that shortages and high turnover rates disproportionately impact students with the greatest needs: students of color and students from low-income families. On top of shortages in specific subjects and locations, the state's educator equity plan submitted to the U.S. Department of Education in 2015 also documents the disproportionate impact of teacher turnover on schools and districts. The Pennsylvania Information Management System (PIMS) October 2013 data[13] reported by all Pennsylvania local education agencies (LEAs) found the average rate of teacher turnover for Pennsylvania's school districts is 6.2%. The average rate of teacher turnover for Pennsylvania's school districts serving the lowest percentage of students eligible for free or reduced-price lunch is 4.9%, while the average rate of teacher turnover for Pennsylvania's school districts serving the highest percentage of students eligible for free or reduced-price lunch is 1.6 times higher, at 8%. Teachers working in the schools serving the highest percentage of students of color are about 1.4 times more likely to leave the school or profession than the schools serving the lowest percentage of students of color.[14]

Pennsylvania's charter schools have much higher rates of turnover than district schools. The turnover rate for charter schools with the highest percentage of students eligible for free or reduced-price lunch is 2.5 times the rate for district schools serving similar students and is four times the rate of turnover for public school districts serving the lowest percentage of students eligible for free or reduced-price lunch. Furthermore, turnover in charters serving the highest percentages of students eligible for free or reduced-price lunch is nearly twice as high as the rate in the charter schools with the lowest percentage of students eligible for free or reduced-price lunch, 21.4% and 10.8%, respectively (see Figure 1).

Figure 1
Rate of Teacher Turnover in Pennsylvania
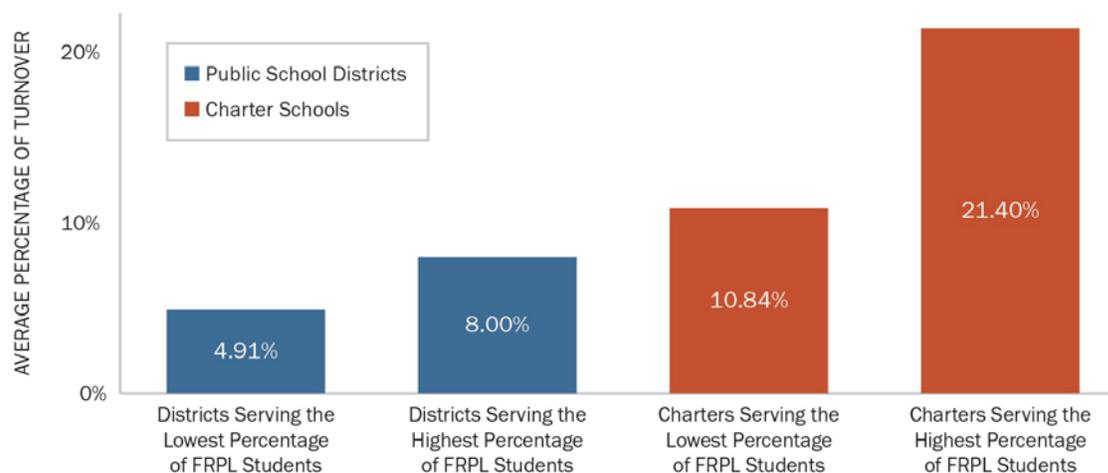
Source: Pennsylvania Department of Education (2015). Pennsylvania's State Plan for Equitable Access to Excellent Educators for All Students

Teacher Preparation Programs in Pennsylvania

The Pennsylvania Department of Education is the body that both licenses teachers and accredits educator preparation programs for operation in the state. There are currently 114 providers approved to prepare educators in the state:[15]

- 95 traditional providers in institutions of higher education
- 19 alternative providers, including The American Board for Certification of Teacher Excellence, Relay Graduate School of Education, PhillyPLUS Residency, Pittsburgh Public School District and Intermediate Units. These providers are based outside institutions of higher education (IHEs) but are sometimes affiliated with one.

Together, these 114 providers offer 3,236 certification programs across the state. Of the 3,236 programs, traditional undergraduate programs account for 1,474 of the state total. Currently, there are 1,762 postbaccalaureate programs. Providers are concentrated in Southern Pennsylvania and on the eastern and western sides of the state.

Following wider national trends, the state has seen drops in teacher preparation enrollment going back to the 2010–11 academic year. For academic year 2012–13, teacher preparation enrollment was 23,546. For academic year 2013–14, enrollment dropped to 18,630, and down to 15,124 for AY 2014–15, a 19% drop between the 2 years. Overall, teacher preparation enrollment is down by 64% since 2010–11 (see Figure 2). Reporting on teacher preparation completers highlights a similar trend in the state.[16] Since the 2010–11 academic year, the state has seen a 48% drop in the number of newly credentialed teachers completing their preparation and entering the workforce. Based on 2017 Title II reporting, 96% of newly credentialed teachers in Pennsylvania are prepared through traditional IHE-based providers. While teacher preparation enrollments have declined significantly, Pennsylvania k-12 student enrollment is projected to remain constant.[17]

In summary, Pennsylvania faces a pressing set of teacher workforce challenges: a striking decline in the supply of new teachers in Pennsylvania, teacher shortages that are disproportionately impacting certain subjects, locations, and high-need student groups, and a current teacher workforce that does not come close to reflecting the diversity of the state's population. Efforts to strengthen teacher preparation in Pennsylvania must address these challenges, while also strengthening the ways in which teacher preparation programs prepare teachers to teach for deeper learning.

Figure 2
Pennsylvania Teacher Preparation Enrollment By Year, 2008–2016
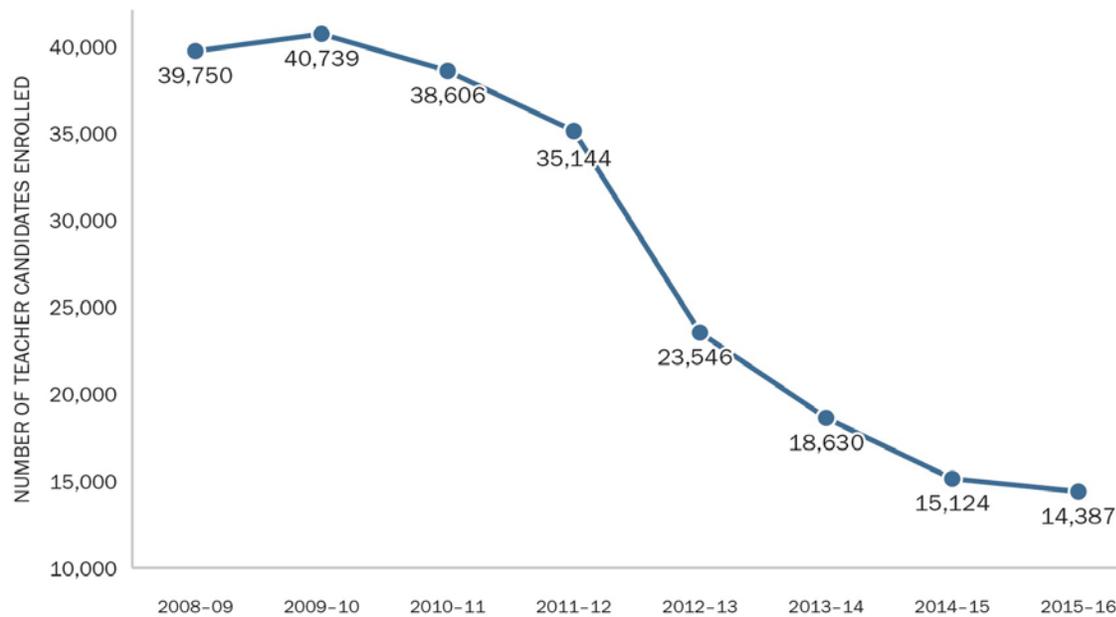
Source: 2017 Title II Reports: National Teacher Preparation Data

Part II: Past and Current Efforts to Strengthen Pennsylvania's Teacher Workforce

Governor's Commission on Training America's Teachers

In 2005, Pennsylvania Governor Ed Rendell appointed a commission[18] to study the state's system for teacher preparation and make recommendations with the following four goals:

1. Assure world-class pre-service teacher education.
2. Link pre-service and continuing professional education in pre-k–12.
3. Address the need for quality teachers in content areas and districts facing persistent shortages.
4. Capitalize on the state's oversupply of teachers.

The Commission was comprised of 40 members representing presidents, deans, faculty, and students from institutions of higher education, pre-k–12 teachers and administrators, leaders from the state's teacher's union, parents, business and community leaders, four legislators, and representatives from the Governor's office and the Pennsylvania Department of Education. After monthly meetings, the Commission identified key challenges facing the state in its effort to ensure a world-class pre-service teacher education and made four broad recommendations meant to tackle those challenges long term. The Commission identified as challenges the following: persistent shortage areas, the diversity of the teacher workforce, the need to better prepare new teachers for the state's complex and diverse teaching environment, and the need to support improved partnerships between higher education and pre-k–12 districts. The Commission's recommendations included:

- investment in improved initial preparation, induction, and professional development;
- investment in programs to alleviate teacher shortages;
- increasing the economic competitiveness of teacher education; and
- improved data for state policy purposes.

The Commission's report reflected the belief that teacher preparation should be seen along a continuum that connects efforts to train new teachers with systems that support their growth once they begin their teaching careers. As the Commission highlighted in its report, "we need to redefine teacher education from a 4- or 5-year collegiate experience to a 7-year collegiate and practice experience featuring increased quality of pre-service programs, induction, and continuing professional education, as well as improved linkages among them."

The Commission made recommendations to support improved university-based programs with an emphasis on improved clinical practice and increased oversight from the Department of Education. The Commission's report emphasized the need for a 2-year induction program and for funding improved innovations that would help smooth the transition from preparation into teaching.

Combined with more focused state induction programs, the Commission recommended more focused professional development and advocated for the funding of more professional development schools, funding support for teachers to earn National Board Certification, and advancing more differentiated staffing in schools.

In responding to the state's shortages of high-quality teachers, the Commission recommended loan forgiveness programs targeting mathematics and science teachers, along with pilot projects meant to improve the preparation and recruitment of mathematics and science teachers. The Commission highlighted the need for more urban clinical experiences, grow-your-own programs, standardized intern certification programs, improved licensure reciprocity, and collaborative efforts between districts and universities to increase the pipeline of quality educators into the profession.

The Commission also advanced a broader recommendation calling for greater unification and accessibility between the teacher certification and professional personnel data systems with the goal of better supporting future policy efforts in the state. The Commission's efforts to increase the economic competitiveness of teacher education centered on creating specialized teacher education consortia in high-need areas and creating out-of-state enrollment caps within the Pennsylvania State System of Higher Education.

Many of the challenges identified by the Commission 13 years ago remain challenges in Pennsylvania today, and the Commission's recommendations may be worth reconsidering in the present context.

Pennsylvania's Consolidated Plan Under the Every Student Succeeds Act

Pennsylvania's plan under the Every Student Succeeds Act (ESSA), approved by the U.S. Department of Education in January 2018, describes a number of state priorities that, if funded, align with and reinforce efforts to promote teacher preparation for deeper learning across the state's licensure and preparation program accreditation systems. The state's ESSA plan was developed following extensive stakeholder engagement and incorporates a number of recommendations from an Educator Preparation Stakeholder Work Group convened by the Pennsylvania Department of Education (PDE) in 2016.[19]

In its plan, Pennsylvania identified growing concerns around the shortage and retention of qualified teachers and highlighted a number of initiatives under Title II, Part A of ESSA meant to improve the recruitment, retention, support, and development of teachers and the overall racial diversity of the state's workforce. The plan proposed using funds to expand rigorous, Department-approved clinical **residency programs for teachers and school leaders** through a competitive grant program. Leveraging partnerships between districts and educator preparation programs, these programs would embed at least 1 year of clinical experience within preparation programs and would emphasize a residency model in which teacher and school leader candidates live and work in the communities and schools in which they teach. The plan proposed giving priority consideration to communities that have reported multiple, chronic shortage areas. In May 2018,

the Pennsylvania Department of Education initiated a $2 million competitive grant program for "Innovative Teacher and Principal Residency Programs," implementing this element of Pennsylvania's ESSA state plan in what it intends to be a multiyear competitive grant program.[20]

Another strategy the state hopes will help address teacher shortages is a statewide **Troops to Teachers** program to support veterans transitioning from military service into the educator workforce. Funded through a $1.6 million, 5-year federal grant managed by the Defense Activity for Nontraditional Education Support (DANTES), this initiative provides one or more alternative pathways to Pennsylvania certification that enable veterans who already hold at least a bachelor's degree to complete critical, specially designed education courses and have access to immediate opportunities to practice that knowledge and skills as part of the pathway to Pennsylvania teacher certification.[21]

PDE has also outlined plans to use available federal funding to encourage partnerships between educator preparation programs and school districts to develop **pathways into the classroom for paraprofessionals**. Combined with a program to provide seed grants and technical assistance to secondary schools implementing curriculum that encourages high school students to explore teaching as a career, the Department is seeking to proactively promote the long-term development of a diverse and talented educator workforce.

Pennsylvania is also considering plans to expand the current functionality of the Teacher Information Management System (TIMS). Launched in 2011, TIMS is the portal through which educators apply for and submit evidence required for certification. While TIMS provides educators and the Department with a streamlined system for submitting, processing, and approving teacher certifications, there is currently no streamlined one-stop shop to connect credentialed educators with open positions in the Commonwealth. Depending on the availability of funds, Pennsylvania intends to use Title II, Part A funds to expand the current functionality of TIMS to create a **statewide educator clearinghouse**. The clearinghouse would provide a venue to match credentialed teachers with openings in the Commonwealth, improve efficiency of human resource operations among LEAs statewide, and enhance the state's understanding of present and future workforce demands, pre-k–12. If this expansion does proceed, the state would have an additional tool available to support conversations between LEAs and preparation programs around meeting the supply and demand needs of the teacher workforce. Louisiana is an example of a state that has used this approach to initiate conversations meant to establish relationships and build future partnerships that can support improved clinical practice and new teacher induction.[22]

Another important opportunity that coincides with the state's implementation of its ESSA plan includes the need to update the framework and standards for teacher preparation. Per Chapter 49 of the state code, the state's current regulations are due for review and the Pennsylvania Department of Education is looking to engage with stakeholders and pursue a thoughtful feedback process. The Department hopes to create state-driven solutions to addressing shortages, teacher diversity, and clinical practice during preparation. With the state's new focus on residency programs, there is room to help shape the policies that will guide and support the next wave of innovative clinically rich preparation across the state.[23]

Part III: Teacher Preparation for Deeper Learning in Pennsylvania

As highlighted at the start of this report, deeper learning is both a new and an old idea, rooted in the findings of research on learning over the past century, yet also aligned with the needs of 21st century students. In classrooms where deeper learning is the goal, rigorous academic content is paired with engaging and experiential learning experiences. Such experiences equip students with the skills to find, analyze, and apply knowledge in new contexts and situations. Ultimately, they aim to prepare students for college, work, and civic participation in a democratic society, and lifelong learning in a fast-changing and information-rich world.

Like deeper learning, teacher preparation for deeper learning is both old and new, based on established findings in learning theory, yet going beyond current teaching methods and educator preparation practices. Although teacher preparation for deeper learning is not common practice in educator preparation, there are preparation programs that, even today, are working to prepare teachers to teach for deeper learning and to support the systemic change needed to implement these practices. Earlier we defined teacher preparation for deeper learning as teacher preparation that includes the following five features:

1. Learning that is developmentally grounded and personalized
2. Learning that is applied and transferred
3. Learning that occurs in productive communities of practice
4. Learning that is contextualized
5. Learning that is equitable and oriented toward social justice

In this section, we review Pennsylvania's current framework for k–12 teacher preparation programs as well as policies governing the structure of preparation programs and the process by which they are approved to operate in the state. Throughout the section, we explore how the current standards and policies support teacher preparation for deeper learning.

How Does Pennsylvania's Current Framework Support Teacher Preparation for Deeper Learning?

Key elements of Pennsylvania's current framework

The Pennsylvania Department of Education's Framework for K-12 Program Guidelines (referred to henceforth as the Framework) outlines the program guidelines for preparation programs in the state. It also identifies a set of competencies that all teacher candidates are expected to understand and demonstrate prior to leaving a PDE-approved preparation program.[24] The Framework details the philosophy of teacher preparation in the state, program design and delivery needed to meet the philosophy, and a professional core rationale that provides context for the competencies. The competencies themselves are organized into four areas: (1) Development, Cognition, and Learning; (2) Subject-Matter Content and Pedagogy; (3) Assessment, and; (4) Professionalism. These domains detail

specific assessable skills, concepts, and foundational understandings required for certification in the state of Pennsylvania. While the Framework does not use the language of deeper learning, there are several examples within and across the competencies (as well as in the professional core rationale) that show alignment with deeper learning practices.

The following analysis explores the alignment of the five elements of teacher preparation for deeper learning principles to elements of Pennsylvania's Framework for K–12 Program Guidelines.

Learning that is developmentally grounded and personalized

There is extensive evidence throughout the Framework that demonstrates a commitment to learning that is developmentally grounded and personalized. In particular, mention is made of multiple principles and theories of childhood development, early childhood theory, and adolescent development. Some of these include:

- Developmentally appropriate practices
- Sociocultural theory
- Attachment theory
- Play
- Cognitive, social, sexual, emotional, and moral development.[25]

In addition to naming a wide range of theories related to learning that is developmentally grounded, the Framework also identifies certain skills aligned with this deeper learning tenet. Candidates must be able to:

- Implement lessons based on early childhood education foundations, theory, and policies
- Design and implement strategies that provide students' positive self-esteem, self-efficacy, and motivation
- Implement lessons based on students' stages of cognitive development
- Use multiple assessments that are developmentally appropriate for all learners.[26]

Additionally, the Framework includes several competencies directly related to social-emotional learning that falls within the domain of learning that is developmental and personalized. For example, teacher candidates must "[d]emonstrate an understanding of Social Emotional Development (self-regulation, self-concept, self-awareness, resilience and stress)."[27] Additionally, in several places, the Framework highlights attention to the "social and emotional" needs of children.

In February 2018, the state approved the Social, Emotional, and Behavior Wellness of PK-12 Students Endorsement Program. The endorsement supports educators in acquiring and developing skills to support the social, emotional, and behavior wellness of students and is a strong step toward greater support for these student needs. Ultimately, these standards should be incorporated into the core standards for all teachers and would help emphasize these skills in both preparation and early career professional learning.

Finally, the Framework contains several competencies that require teacher candidates to attend to the personalized needs of students. Candidates are expected to be able to "[i]dentify and respect the individual and cultural differences of all adolescents and the implications of those differences in teaching and learning."[28] Application of this knowledge is evident in language addressing differentiation and assessment for individual students. For example, candidates must "[d]ifferentiate instruction, assessment, and management strategies to represent a broad spectrum of learning abilities, learning styles, multiple intelligences, and interests" and "design successful interventions responsive to the needs of individual students."[29]

Overall, the Framework evidences multiple and detailed examples of competencies aligned with learning that is developmentally grounded and personalized. **However, the competencies lack language that highlights the importance of building on students' prior knowledge and does not identify scaffolding as a pedagogical practice to support individual students' learning.**

Learning that is applied and transferred

The professional core rationale of the Framework highlights learning that is applied and transferred. Candidates interested in teaching in k-12 schools must be prepared to frame student inquiry, prompt critical thinking, and assist in learning transfer, while motivating and challenging students with a variety of evolving 21st century applications of the subject matter.[30]

The competencies themselves further underscore the need for candidates to support students in gaining, processing, and using "information in different contexts."[31] There is added emphasis under the competencies for curriculum development and learning experiences that include "age-appropriate problem solving and critical thinking skills."[32] To support these learning principles, the Framework also outlines performance feedback competencies under Assessment that align with the features of teacher preparation for deeper learning. The Framework defines authentic assessment as "[a] form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills."[33]

While the Framework states that candidates are expected to know the differences between various assessment types, **more precise language within the competencies would strengthen the expectation that candidates need to demonstrate the ability to design and implement authentic, real-world assessments. Also, project-based learning could be identified as an instructional strategy that provides students the opportunity to deeply learn concepts in ways that they can be applied in different contexts. Further emphasis on providing interdisciplinary, real-world learning experiences would better reinforce the types of instructional shifts required to support deeper learning**.

Learning that occurs in productive communities of practice

There is solid evidence of the alignment between the Framework competencies and learning that occurs in productive communities of practice. This evidence shows up in three ways: (1) classrooms as communities; (2) connection to the broader community to support student learning; and (3) the expectation that candidates will participate in communities of practice.

The professional core rationale of the Framework notes that "Teacher preparation … should be geared toward the social, emotional, and intellectual development of the child, and should be grounded in the notion of communities of practice."[34] There are several competencies that support this vision. Candidates are required to:

- Develop classrooms as communities of practice that are learner-oriented
- Create environments that are educationally focused, respectful, supportive, and challenging for all children
- Develop assessments that impact instruction, facilitate learning communities, and support diverse students' development and learning[35]

While these competencies reflect learning that occurs in productive communities of practice, the Framework does not provide direction as to what elements of practice are necessary to create, develop and support these types of learning communities.

The Framework also takes into consideration the development of students for life and society, with specific connection to families and the broader community. The Frame states that preparation programs need to be designed so that "[a]ll courses should … enable candidates to gain the knowledge and experience to work successfully with family members and the broader community."[36] This expectation is so that candidates are able to use the knowledge they gain by working with family members and the broader community to be able to "[e]ngage children in activities related to their interpersonal, community, and societal responsibilities."[37] This connection to societal responsibilities is further emphasized when the competencies articulate an expectation that students' learning prepares them for "full citizenship."

Finally, under the competencies of Professionalism, the Framework identifies activities candidates are expected to participate in that imply being active members of their school communities and broader communities. These activities include:

- Serving on an advisory program, co-curricular activities, and other programs supporting the curriculum
- Participating fully in grade and building level structures
- Participating in professional organizations related to a subject area specialization, academic discipline, and/or teaching[38]

While the Framework provides evidence of attention to learning that occurs in productive communities of practice, the language is often broad, with little as to what it should look like in practice. There is room for more specific examples needed to ensure teachers are prepared to support classrooms that operate as collaborative communities of practice. **Competencies could be**

enhanced by further prioritizing the need for teachers to develop a repertoire of tools that allow them to build a community of learners in their classroom and to use collaborative learning strategies successfully in the classroom.

Learning that is contextualized

There is some evidence of alignment between the Framework and learning that is contextualized. The competencies note the need for candidates to understand student development within the "context of classrooms, families, peer groups, communities, and demonstrate their ability to use the principle in pedagogy. They must, "[i]ncorporate the ideas, interests, and experiences of children and/or adolescents into instruction."[39] The competencies loosely tie this incorporation to real-world contexts: candidates must "[e]ngage children in activities related to their interpersonal, community, and societal responsibilities."[40]

As highlighted by pre-service educators in the Remake Learning network, **there is room for further detail to be built into descriptions of the candidate's role in supporting contextualized learning by highlighting classroom tasks that allow students to learn concepts in real-world contexts and to build family and community partnerships that can inform learning experiences and opportunities for all students.**

Learning that is equitable and oriented toward social justice

The Framework provides limited evidence that there is alignment between the competencies and learning that is equitable and oriented toward social justice. While the professional core rationale does note that "… awareness of diversity issues supports the motivation and self-esteem of students in grade 7−12, as well as encouraging academic excellence," there is a lack of definition or guidance throughout the competencies in what constitutes "diversity issues."[41]

This same lack of specificity applies to candidates' expected knowledge and practice to support English language learners and students with special needs. Candidates are expected to make "… explicit connections with content areas, cognitive development, literacy, special education, and English language learning."[42] While these are important skills, the lack of specificity makes it difficult to prove competency has been met. The one exception is the requirement that candidates "[d]emonstrate an understanding of overrepresentation of minorities in special education so as to not misinterpret behaviors that represent cultural or linguistic differences as indicative of learning problems."[43] This specific example of how inequities manifest in schools and the explicit expectation that candidates avoid contributing to that inequity is a good example of the level of detail needed to indicate alignment to learning that is equitable and oriented toward social justice.

Another important area that could be developed further in the Framework is grounding candidates' knowledge and practice in an understanding of the historical, economic, social, and political context of schooling in the United States. In addition, the competencies could extend details on how to better support students who have been historically underserved with practices and strategies that meet the needs of students with a wide range of needs.

These competencies could include:

- Culturally responsive teaching
- Trauma-informed practices
- Understanding implicit bias and how it manifests in schools and classrooms
- Connecting curriculum to students' prior knowledge and experiences
- Heterogenous grouping and complex instruction
- Restorative practices
- Partnering with parents and families to support student growth and learning

Additionally, the Framework could make more explicit reference to how race, class, gender, religion, and other social identifiers impact student experiences in school and how to ensure that student identities are positively supported and reflected in relevant and engaging curriculum and pedagogy.

Overall, PDE's Framework for K-12 Program Guidelines has some promising places of alignment with Teacher Preparation for Deeper Learning principles. In particular, the Framework provides rich and multiple examples of learning that is developmentally grounded and personalized. Competencies that align with learning that occurs in productive communities are also quite evident throughout the Framework. There is opportunity to strengthen the competencies in relation to learning that is contextualized and learning that is applied and transferred. Learning that is equitable and oriented toward social justice is the deeper learning domain that has the least alignment to the Framework and is a vital part of ensuring that all students have the opportunity to learn deeply.

Tiered clinical experience

For undergraduate preparation, the state mandates four different stages of field experience, with student teaching as the fourth stage. Pennsylvania's requirements for field experience outline the expectation that experiences "include learning about the socio-emotional, cultural, linguistic, and academic traits of students" and align with the elements of teacher preparation for deeper learning that emphasize learning that is developmentally grounded, personalized, and contextualized.[44]

According to state guidelines, the first two stages should provide early field experiences and opportunities to work with students prior to formal acceptance into the teacher preparation program. In Stage 1, candidates observe a range of school and classroom settings. The intention is that candidates would gain broad exposure to k-12 environments, learners, and philosophy. Stage 2 allows candidates to work closely with a small group of students under the supervision of a certified teacher. Prior to Stage 3, candidates will have been accepted into the program and have taken at least one teaching methods course. Candidates will not have full control of a class during Phase 3 but will work with a small group of students in school or after-school settings under the supervision of a certified teacher. It is during this stage of field experience that the state offers an alternate option for candidates looking to acquire the requisite hours but in an educational setting outside a

public classroom. This optional project-based field experience to be completed during Phase 3 allows a candidate to meet 50 of the potential 150 hours through a placement in a non- classroom setting such as museums, clubs, youth centers, state parks, summer day programs, and social case work, providing teacher candidates the opportunity to explore youth development and engagement outside the traditional classroom setting. Candidates can take on the responsibilities of a leader while under the supervision of a mentor and can benefit from broadened perspectives on the factors that underlay and affect student motivation, interest, and performance.

Since 2012, the state has moved from a required number of hours for field experiences (prior to student teaching) to a focus on competencies expected to be demonstrated through field experience(s). Programs are still required to report the hours assigned to each stage of field experience.[45]

It should be noted that this conception of tiered clinical experiences reflects a vision of preparation tailored to the undergraduate route. Yet, the majority of the state's programs are postbaccalaureate, and contemporary research about learning to teach emphasizes the active engagement of teacher candidates from the beginning of their clinical experiences.[46] Ultimately, there is room to strengthen how student teaching unfolds for candidates and how long it lasts.

Student teaching

Stage 4 is the required student teaching experience. As outlined in the Framework, the state mandates a minimum of 12 weeks (420 hours), and the student teacher must be supervised by "faculty with knowledge and experience in the area of certification and a cooperating teacher with appropriate professional educator certification." Programs are also required to provide at least one experience during Stage 3 or during student teaching that is in a public school setting. Relative to most states that have mandated between 15 and 18 weeks of student teaching, this length of clinical experience is relatively small. An ideal length would see candidates gaining direct classroom experience under the guidance of a mentor teacher for a full academic year, so they can experience the trajectory of establishing and managing a classroom from start to finish.[47]

The state requires the **use of the PDE-430** student teacher evaluation tool at least twice during the minimum 12-week student teaching experience (see Appendix B). To achieve a favorable rating and complete the assessment, candidates must earn a satisfactory rating (1 point) in the four assessed categories on the final summative rating.[48] There are 12 possible points, with a four-level scale that includes Exemplary, Superior, Satisfactory, and Unsatisfactory.

An underlying challenge highlighted by the Remake Learning work group is the current use of the form and the ways it may fail to encourage improvement among candidates and preparation programs. Districts report that scores from the PDE-430 form are often inflated and provide minimal information about a candidate's teaching and ability to support students in acquiring deeper learning skills. Furthermore, programs highlighted the

prevailing perception that the PDE-430 form served more of a compliance role and was an item among a long list of required items needed to advance a candidate toward licensure.

It is worth noting that this apparent lack of consistent implementation of the PDE-430 form across program faculty and cooperating teachers indicates an additional space where structures supporting more collaborative k-12 and preparation program partnerships might help improve the feedback processes that support both candidates and overall program improvement.

While the form's current implementation may fall short of supporting improved deeper learning practices among teachers and preparation programs, PDE-430 does contain important elements of teacher preparation for deeper learning in the outlined performance expectations (see Appendix B). While most of the performance indicators reflect more generalized versions of The Framework for K–12 Program Guidelines (described above), there are a few indicators that deserve recognition as reinforcing teacher competencies and behaviors that align with teacher preparation for deeper learning. Specifically, under Category II covering classroom environment, the evaluation tool outlines the following expectation: "Student teacher/candidate establishes and maintains a purposeful and equitable environment for learning, in which students feel safe, valued, and respected, by instituting routines and setting clear expectations for student behavior" (pg. 2). While this serves as a step in the right direction, the competency doesn't capture how the environment needs to be shaped beyond routines and minimum classroom management expectations, for example, by creating classroom communities and supporting students' development of responsibility for one another through social and emotional learning.

Other performance expectations that are conducive to supporting deeper learning in the classroom include the expectation that candidates demonstrate "integration of disciplines within the educational curriculum," along with "flexibility and responsiveness in meeting the learning needs of students." Much like the competencies in the Framework, there is an opportunity to expand the level of detail in the PDE-430 form and further guide candidate skill development toward the practices of teaching for deeper learning. At the end of the student teaching experience and at the completion of their degree, candidates can apply for licensure with the recommendation of the preparing program.

In addition to challenges outlined around the implementation of the PDE-430 form, some programs experience the state's heavily specified approach to both the practicum and student teaching experiences as a constraint in their pursuit of more meaningful learning experiences for teacher candidates in the classroom. Knowing that early and more sustained engagement opportunities for teacher candidates can translate into stronger learning, a push to increase the length of student teaching and added flexibility around the structure of early classroom experiences could provide programs space to create more innovative and sustained opportunities for candidates to build their confidence and teaching practice.[49]

Alternative routes

While current alternative routes to certification account for less than 5% of future educators prepared across the state,[50] Pennsylvania currently oversees at least three different alternative routes to certification: (1) the intern pathway; (2) the American Board for Certification of Teacher Excellence (ABCTE), and (3) the residency certificate. Within these, the vast majority of alternative route candidates enter through the intern pathway.

The **intern certification route** is intended to provide "flexible and accelerated pedagogical training to teachers" and is meant for candidates who already have a degree from an accredited 4-year college or university.[51] Currently, fewer than 4% of teachers enter the workforce on an intern certificate.[52] Once a local school district has documented the need to fill a position for which a certified teacher cannot be found, the reporting district can request an intern certificate from PDE, and then a nearby college of university with approved teacher certification programs determines an appropriate program of study for the candidate while they begin working as a classroom teacher. Once candidates pass the required subject-matter test for their proposed content area and are enrolled in an intern certification program, they may begin teaching in a classroom as a teacher of record. Candidates complete a supervised clinical experience that includes a college supervisor and guidance from a mentor teacher. Candidates have 3 years to complete the requirements for the intern certificate, at which time they will be eligible for the Instructional I certificate, and programs must observe candidates at least once a month during their first year in the classroom using the same PDE-430 evaluation tool used for traditional programs. All routes, traditional or alternative, are held to the same standards for preparing candidates, including the requirements to meet the needs of students with diverse needs and English language learners.

The **American Board for Certification of Teacher Excellence (ABCTE)** requires candidates to pass ABCTE exams prior to earning a Temporary Teaching Permit. Candidates then have 1 year to upgrade to the Instructional I certificate by completing a 12-week mentoring program through Point Park University, or two graduate level courses through Point Park. Candidates are observed at least four times using the PDE-430 form and must meet the minimum satisfactory rating for each domain. The state does not allow a candidate to meet these requirements while working for a cyber-charter school. Over the last 3 years of reporting, only a small number of teachers have entered the profession through this route. For 2014–15, 10 individuals completed their certification through the American Board for Certification of Teacher Excellence in Pennsylvania.[53]

Additionally, a **residency certificate**, under Act 24, can be issued in areas of certification in which there is a statewide or regional shortage of qualified teachers, as designated by the Secretary of Education. Individuals participating in a residency program are issued a residency certificate and, upon completion of the approved residency preparation program and the required mentoring, receive an Instructional I teacher certificate. To qualify for the residency certificate, individuals must hold a doctoral or master's degree in the subject area of shortage, or a bachelor's degree with 3 years of work experience in the subject area or related field. Residency programs can be provided by institutions outside higher education. The residency certificate can be converted to an Instructional I certificate upon completion of the required residency program coursework and 3 years of satisfactory teaching in Pennsylvania public schools.[54]

It should be noted that the requirements for the residency certificate are both more prescriptive about *who* can participate in a residency program and more vague about *what* preparation experiences must be provided than those which have shaped successful residency models across the country.[55]

Nonetheless, despite the fact that they do not fall within the existing "residency certificate" requirements, Pennsylvania has a number of teacher residency programs that operate within the state. These include:

- **Temple Teacher Residency Program** prepares candidates to teach mathematics and science in urban settings. The program is a partnership between Temple University, the School District of Philadelphia, and American Paradigm Schools. Residents complete a yearlong residency experience under the guidance of a trained mentor teacher, while observing and teaching in different classroom contexts and grade levels. Residents agree to teach for 3 years as a mathematics or science teacher in the high-need district charters and schools represented in the partnership and receive a stipend. Additionally, residents complete intensive mathematics and science methods classes through Temple University throughout the fall semester of their residency year and receive additional induction support during their first 2 years of full-time teaching. The program receives federal funding under the Teacher Quality Partnership Grant program through the Higher Education Opportunity Act.

- **Pittsburgh Urban Teaching Corps** is a teacher residency program developed by Propel Schools, a federation of charter schools based in Pittsburgh, and Chatham University. Residents complete coursework for a Master of Arts in Teaching from Chatham University, while participating in a full-year residency. During the residency, candidates work as teaching apprentices supported by a Propel mentor, earning a $20,000 stipend, health benefits, and full tuition to the MAT program. Upon completion of the residency program, residents commit to serve as salaried, full-time teachers in a Propel classroom for 3 years. Residents work toward becoming a mathematics or science teacher at the middle or high school level.

- **Philadelphia Teacher Residency Program** is a partnership between the Academy of Natural Sciences at Drexel University and several Philadelphia schools and prepares residents to be secondary (7–12) teachers in Biology, Chemistry, Earth and Space, English, General Science, Mathematics, Physics, or Social Studies. The residency is 15 months and includes a 12-month blended learning program that leads to a Pennsylvania Instructional I certification. Throughout this blended learning program, residents are working in a Philadelphia school alongside a mentor teacher. After the residency, Drexel University's School of Education provides 2 years of support for program completers as they transition into full-time teaching. Residents all work alongside museum scientists at the Academy of Natural Sciences at Drexel University to learn how to leverage informal learning resources throughout Philadelphia. Residents commit to teach in Philadelphia schools for at least 3 years and pay a discounted tuition rate.

Requirements for Cooperating Teachers and Mentors

Current requirements for cooperating teachers and mentors are outlined in the state's Framework. The student teacher must be supervised by "faculty with knowledge and experience in the area of certification and a cooperating teacher with appropriate professional educator certification." The cooperating teacher must be fully certified in the same subject/grade level that the student teacher is seeking certification in. As to the extent of training required and/or provided to the cooperating or mentor teacher, the state outlines general guidance. Cooperating teachers must be "willing and qualified, must have appropriate certification, have 3 years of satisfactory certified teaching experience on the appropriate certificate, have at least 1 year of certificated teaching experience in the school entity and be trained by the institution, preferably in best practices." While this sets a clear expectation for the experience level of cooperating teachers, the variety of evaluation systems across the state may pose a challenge for preparation programs seeking to connect their candidates with mentors who can actively demonstrate and cultivate the skills to support deeper learning in the classroom. To help remedy this situation, the state could support programs in providing training and professional development to cooperating teachers with the goal of supporting their ability to effectively guide novice educators through their clinical experiences. Furthermore, there is no current financial incentive in place for cooperating teachers, which can reward and recognize the development of expertise and the expansion of an experienced teacher's role.

Candidate assessment

To obtain an initial teaching license, candidates must complete an approved preparation program with a minimum GPA of 3.0. Candidates must also meet all testing requirements, including passing a basic skills assessment in mathematics, reading, and writing, as well as the corresponding subject-matter test. The basic skills test requirement is a prerequisite for entry into an approved preparation program, and the subject-matter test is required to qualify for licensure. Qualifying basic skills tests include the SAT, ACT, the Pre-Service Academic Performance Assessment (PAPA), and the CORE academic test. The Praxis II series of subject-matter tests serves as the main state-level testing requirement for certification and does not contain authentic performance-based components that measure or assess a candidate's ability to support deeper learning in the classroom.

All assessments used during a candidate's clinical experience, outside of the PDE-430 evaluation tool, are program-specific and reported on during the state accreditation renewal process. While the PDE-430 is a required statewide performance assessment, the challenges with its implementation and reliability have already been documented. PDE-430 does not currently provide consistent evidence of a candidate's ability to implement effective teaching practices and support the learning of all students.

Many states have sought to provide more carefully designed and implemented options to programs and candidates in an effort to document an individual teacher's ability to demonstrate specific knowledge and competencies. Currently, 16 institutions in Pennsylvania are using the edTPA, a national performance assessment that measures candidate

performance in the classroom and requires demonstration of supporting student learning through teaching artifacts such as student work samples and analysis of teaching video clips. Four institutions are fully implementing the edTPA, and another 12 are in stages of introduction or exploration.[56]

Teacher Preparation Program Accreditation Framework

Pennsylvania's system for deciding which preparation program providers can prepare teachers in the state includes a 7-year program review cycle, as mandated by statute (22 Pa. Code § 49.13(d)).[57] As part of the Professional Educator Program Approval Major Review, programs can include evidence of national accreditation, though the state does not require national accreditation for certification program approval. The Major Review requires program providers to provide evidence on inputs, outcomes, and impacts to "inform program quality and result in continuous improvement" (p. 8). The language of the review provides significant flexibility to programs in how they report on inputs, outcomes, and impacts related to candidate performance in the field, faculty interactions with candidates and cooperating teachers, and elements of the partnership between the preparation program and the placement school.

The review manual defines outcomes as "broadly conceived as those performances of pre-service and early in-service program candidates" (p. 7). Programs measure candidate performance and competency through faculty-designed assessments. These assessments should occur throughout courses, field experiences, and culminating clinical experiences. PDE indicates that these "critical competency-based assessments attest to the candidates' performance in each program. They allow for assessment of the individual, and the aggregate of these results speak to the quality of the program" (p. 7). It is these outcomes that the Department considers the foundation for the program provider's self-study, and it is from these outcomes that the program should identify areas of strength and areas for improvement. Program providers are required to provide evidence that documents program growth and performance of candidates on specific program competencies. Additionally, evidence should demonstrate impacts on student growth and achievement in pre-k-12 classrooms for both pre-service and in-service candidates. Program providers are also expected to provide evidence of meaningful collaboration with internal and external stakeholders.

Another important element of evidence that programs must include in their major program review is data collected from the districts where candidates complete their field experiences and student teaching. Programs are required to submit in narrative form the processes and tools used to collect feedback from the local education agencies where candidates are placed. Elements that programs must provide feedback on include:
- the quality of candidates placed in the LEA for their field experiences;
- the collaboration between the LEA and the program faculty, and how it is used for program improvement; and
- the quality of candidates placed in the LEA for their student teaching/internship.

To further track this relationship with LEAs and former candidates out in the field, preparation programs must develop and maintain active supports for new teachers after program completion for a period of no less than 2 years. It is within this requirement that the state suggests programs

administer graduate surveys to use in assessing program effectiveness, though this is not a requirement. Furthermore, under state regulation, preparation programs are required to provide "... ongoing support for novice educators in partnership with local education agencies during their induction period, including observation, consultation and assessment" (22 Pa. Code §49.14(4)(ix); *see also* 22 Pa. Code § 354.26 (d)).

A clearly defined role for preparation programs in supporting both program completers and district induction programs could be an additional lever to help improve the quality of teachers in supporting deeper learning for all students. This is also an important requirement that could be utilized to the benefit of both programs and districts. In addition, the required support for induction programs could be paired with an expanded vision for preparation partnerships across the state that mirror those developed through professional development schools. Professional development schools function like teaching hospitals in medicine to ensure state-of-the-art clinical training for candidates, create sustained opportunities to share expertise across institutions, and support the training of current teachers and candidates completing their preparation.

Furthermore, despite the requirements for programs to self-report their progress in building partnerships with districts, questions persist about the effectiveness of this form of data collection in promoting continuous improvement efforts. There does not appear to be a mechanism through which the state can gauge the reliability of such self-reporting, nor is there a way to accurately measure whether efforts at leveraging partnerships for program improvement have been successful. In some states, efforts are underway to promote data collection on preparation partnerships that helps standardize both the expectations for partnerships and the processes by which information is collected and reported. In order to support quality partnerships that can grow teacher preparation for deeper learning practices, a state system of accreditation and data collection should prioritize collecting feedback on candidates from across a partnership, and incentivize greater collaboration that benefits both districts and programs.

On top of the partnership reporting requirements, the state currently requires the qualifications of program faculty be included in program review submissions. According to The Framework for K-12 Preparation Programs, "faculty must have demonstrated expertise in education methods appropriate to engaging the minds of all learners and in the K-12 grade subject-matter content they are teaching" (p. 20). Programs are also required to provide evidence of significant collaboration between arts and sciences faculty and education faculty, along with current practicing k-12 level teachers and administrators in all content areas (Chapter 354 sections 354.25 and 354.26).

It is here that the teacher preparation for deeper learning framework could be used to help reinforce the training and competencies faculty should seek to demonstrate in their work with teacher candidates and in their collaboration with other program faculty and k-12 teachers and administrators. Furthermore, setting a goal that faculty have experience working and teaching in k-12 schools, as well as stronger MOUs that would assist with close collaboration between preparation providers and LEAs, would help disseminate the deeper learning principles across both coursework and fieldwork. With greater financial support from the state, preparation programs could invest more directly in building partnerships with k–12 districts and through partnerships establish relationships that provide development and learning for candidates, cooperating teachers, and program faculty.

Following the submission of major review materials and evidence, programs are then designated one of three levels of approval status: full (7 years), conditional (2 years), and approval denied. Decisions for full approval are based on the review demonstrating that the program meets the program framework guidelines. If a program is granted conditional approval, the provider must develop and submit an action plan to the Department for approval. The plan must address problematic areas and a timeline for implementing identified improvements. The Department and program provider will also agree upon reporting and/or follow-up visits during the improvement phase. Conditional approval is granted for up to 2 years, and programs that do not successfully address the areas for concern may be denied approval or could undergo a second comprehensive major review. The Department notes that depending on the area(s) of concern, a site visit may or may not be required. The state also provides technical assistance to program providers under conditional approval or facing an out-of-cycle review through an assigned Department liaison.

Before a program can have its approval denied, the state will perform a site visit at the expense of the program provider. If the program is denied approval, the program must terminate the admission of candidates to the program, and all presently enrolled candidates must be notified. Working with the Bureau of School Leadership and Teacher Quality, arrangements would then be made to assist candidates in obtaining certification. Programs that seek to be reinstated must complete an initial application through the state's approval process.

According to the state's Title II reporting, starting in the 2013–14 academic year, Pennsylvania implemented the following four criteria to designate a program provider's teacher preparation program(s) as low-performing during any of the 3 consecutive years applicable to the program provider's Title II Institutional Report Card:

1. The program received a conditional approval status during major review;
2. The 3-year average for summary pass rates is below 80%;
3. The 3-year average for each single assessment pass rate (both completers and enrolled students) is below 80%; and
4. The number of candidates reported as program completers compared to the number of candidates enrolled in each initial teacher preparation program.

The criteria for "low-performing" and "at-risk" are the same for alternative routes and traditional preparation programs.

It should be noted that within the past 5 years, the Pennsylvania Department of Education has not placed a program on conditional approval, nor has the Department denied any program approval. The state has also never identified a program as at-risk or low-performing through its Title II reporting. According to PDE leadership, the Department has taken the time to help providers address areas for improvement through targeted technical assistance. Specifically, the state utilizes higher education liaisons assigned to each teacher preparation provider to assist them through the application and review process. At times, the need for assistance has focused on collecting and reporting the data required by the Department, and in some instances, staff have been sent to the program provider to provide one-on-one training on the review and application process.

The state also has the option to perform an out-of-cycle review of a program provider when an area of concern arises. In the process of reviewing the Department's Annual Report and the required HEA Title II reports, the state may choose to trigger a further review if concern arises

from test pass rates, program completion rates, GPA/test score relationships, graduate satisfaction, program retention rates, professional retention rates, LEA satisfaction with candidates, unusual rate of leadership and/or faculty turnover, change of national accreditation status, and/or failure to follow the state's framework guidelines and state regulations. It is important to note that graduate satisfaction is not a reporting requirement but encouraged as part of the support for new teachers beyond the program. The state may also respond if complaints have been received about programs or program providers. Programs are given 1 year to prepare for an out-of-cycle review.

To inform decisions about out-of-cycle reviews and to meet the reporting requirements under Title II of the Higher Education Act, program providers report candidate assessment data and demographics to the state. The state also requires program providers to report annually on:

- ✦ Number of formally enrolled candidates
- ✦ Number of candidates retained from the initial enrollment numbers
- ✦ Number of candidates who complete the program
- ✦ Candidate average GPA
- ✦ Number of field hours completed in Stage 3
- ✦ How many full-time faculty supervised the Stage 3 field experience
- ✦ The program's Stage 3 candidate to full-time-equivalent faculty-supervisor ratio
- ✦ Percentage of supervisors with at least 3 years of k-12 classroom experience
- ✦ When candidates are required to take subject-matter assessments
- ✦ Number of candidates taking the subject-matter assessments
- ✦ Number of candidates who pass the subject-matter assessments
- ✦ The overall pass rate for candidates taking the subject-matter assessments
- ✦ Percentage of faculty engaged in professional development
- ✦ How often faculty are required to take training on emerging educational technology

This information is to be made available to applicants, candidates, the Department, and the State Board. In the state's reporting regulations, program providers are also required to demonstrate how the result of systematic evaluation of programs is used to guide improvement and enhance candidate performance.

While the annual collection of data from preparation programs could supply actionable information to both the state and preparation programs, there is room both to improve the use of current data collected and to expand the types of data collected. Specifically, programs could collect more information on their candidates' performance in the classroom, and they could better understand how those candidates are viewed by employers once they are working in the field. Additionally, Pennsylvania could take more advantage of opportunities to use the state's annual data collection in the service of tackling shortages and increasing the racial diversity of the teacher workforce.

Part IV: Policy Recommendations

What follows are a set of policy recommendations, developed in collaboration with the Remake Learning network, to strengthen teacher preparation and licensure in Pennsylvania so that teachers are better prepared to provide deeper learning experiences for their students. These eight recommendations were informed both by Remake Learning network members' experiences as practitioners in the field and by the Learning Policy Institute's review of Pennsylvania's current policies surrounding teacher licensure and accreditation and best practices from other states.

Specifically, these recommendations were developed and refined at two in-person meetings of the Remake Learning network, as well as through written feedback provided by individual members. On November 27, 2017, members of the Remake Learning teacher preparation work group—10 colleges and universities that produce the vast majority of teachers in Western Pennsylvania—met in Pittsburgh to discuss the current state of Pennsylvania's teacher licensure and preparation program accreditation systems. During that conversation in Pittsburgh, the group outlined current challenges and highlighted the fact that student teachers are not typically exposed to deeper learning during their clinical experiences. The group also highlighted the need to promote greater teacher diversity, address teacher shortages and turnover, and develop beginning teacher performance assessments. Finally, there was interest among the group in removing barriers to innovative clinical experiences and models and a desire to integrate residency models into the preparation of new candidates.

On March 15, 2018, the Remake Learning network convened the teacher preparation and policy working groups and provided opportunities to reflect on the findings in this report and the recommendations set forth below. Participants offered feedback both inside and outside the meeting, helped prioritize the focus of the recommendations, and ensured the description of Pennsylvania's teacher preparation accreditation and licensure system reflected their experiences implementing state policies at the program level. Additional opportunities to support shifts in preparation at the local level were also discussed and considered.

In shaping the following recommendations, consideration was given to the state's governance structure and the context within which the Pennsylvania Department of Education, the State Board of Education, the Governor, and the state's General Assembly operate to shape education policy. Furthermore, we have outlined potential legislative actions and policy changes that would, in many cases, require additional capacity and funding for the Department of Education, the institution that would be tasked with overseeing many of these changes and the implementation of any new programs. Participants in the teacher preparation working group consistently echoed the belief that PDE was understaffed and therefore had limited capacity to support program improvement. Given this, we stress the need for the Governor and General Assembly to ensure PDE has adequate funding to staff programs outlined below with the goal of improving the statewide supports for quality teacher preparation.

With these conversations serving as a guide, we offer the following recommendations for supporting teacher preparation for deeper learning in Pennsylvania through the state's licensure and accreditation system:

Teacher Shortages

Address persistent teacher shortages in specific subjects and locations and reduce attrition by providing targeted service scholarship or loan forgiveness programs, as well as improved preparation and clinical experiences.

Research has shown that strong preparation increases teachers' efficacy and makes it more likely they will remain in the profession. Depending on the study, attrition rates are found to be two to three times higher for teachers who enter the profession without full preparation than for teachers who are comprehensively prepared.[58] Additionally, an analysis of the nationally representative Schools and Staffing survey found that new recruits who have no practice teaching prior to employment were three times more likely to leave teaching after a year than those who had a semester or more of practice teaching.[59] Currently, Pennsylvania regulations create multiple routes into the classroom that do not require this level of student teaching, including through an intern certificate and the American Board for Certification of Teacher Excellence (ABCTE). It is not clear that every route provides the level of comprehensive preparation research suggests will retain teachers in the classroom.

When looking at the route through which new teachers enter the profession, several studies have found that alternatively certified teachers leave the profession at higher rates than regularly certified teachers, and that disparities are even greater in high-minority schools.[60] These higher teacher turnover rates can negatively impact student achievement, both among the students in the classrooms of teachers who leave as well as those in the classrooms of those teachers who stay.[61]

Along with the research demonstrating the value of comprehensive preparation, research also shows that the cost of preparation is increasingly difficult for candidates to afford, and more than two-thirds of individuals entering the field of education—many of whom are new teachers— borrow money to pay for their higher education. This results in an average debt of about $20,000 for those with a bachelor's degree and $50,000 for those with a master's degree. Unlike in other professions, such as law or medicine in which future high professional salaries better justify large upfront training costs, teaching pays a relatively low salary. In this context, prospective teachers may rationally choose a pathway in which they can earn a salary while undergoing training rather than taking on debt, which they must repay on a low salary.[62]

As a consequence, the state needs a way to ensure that everyone can afford to become well-prepared through the funding of **targeted service scholarships and loan forgiveness programs** that seek to recruit and retain teachers in the fields and classrooms that need them most. For Pennsylvania, which has seen persistent shortages in many of the same subjects over the past decade and has shortages in both rural and urban locations, the development of programs that would provide financial incentives to future teachers, while requiring a period of service (e.g., 4 years) in these high-need classrooms, could tackle shortages and boost retention.

This recommendation is one that was raised by Pennsylvania's Governor's Commission on Training America's Teachers in 2005 and remains just as relevant today, as highlighted by the state's ESSA stakeholder educator preparation work group. As was stated by Tom Ralston, Superintendent of Avonworth School District, "service scholarships could be Pennsylvania's 'go

to the moon' effort." Additionally, as described further below, to reap the benefits of these investments, the state should also ensure that all pathways into the profession include robust clinical requirements reinforced by innovative and improved clinical experiences that span the length of a school year.

Diversifying the Teacher Workforce

Ensure that candidate funding policies, as well as licensure and accreditation policies, support the state's overall focus on diversifying the teacher workforce.

As described in its ESSA state plan, PDE has made improving the racial diversity of the teacher workforce a priority. This reflects the fact that only 6% of the state's 119,763 teachers were teachers of color in 2017–18, a proportion well below the national average (20%) and not reflective of Pennsylvania's diverse student population (33% students of color).[63] It is no surprise that the state is eager to increase teacher diversity, given its significant benefits to students. Being taught by teachers of color offers benefits to all students, and especially to students of color, in the following ways:

- ☐ Teachers of color are a resource for students in hard-to-staff schools. Many teachers of color report feeling called to teach in low-income communities of color where positions are often difficult to fill. Indeed, three in four teachers of color work in the quartile of schools serving the most students of color nationally.
- ☐ Studies have found that teachers of color boost the academic performance of students of color. Scholars cite improved reading and mathematics test scores, improved graduation rates, and increases in aspirations to attend college.
- ☐ Students of color can experience social-emotional and nonacademic benefits from having teachers of color, such as fewer unexcused absences and lower likelihood of chronic absenteeism and suspension. Students of color and White students also report having positive perceptions of their teachers of color, including feeling cared for and academically challenged.
- ☐ Teacher diversity may also benefit teachers of color who experience feelings of isolation, frustration, and fatigue when there are few other teachers of color in their schools. Increasing teacher diversity may improve satisfaction for teachers of color and decrease turnover, a key contributor to teacher shortages and school instability.[64]

Members of the Remake Learning network's teacher preparation working group also emphasized the goal of recruiting and retaining a more diverse teacher workforce and want to see state licensure and accreditation policies better support this goal.

There are a number of opportunities to strengthen state policy to further the goal of diversifying the teacher workforce in Pennsylvania. As an initial matter, additional recruitment incentives like **service scholarships and loan forgiveness programs**, which help underwrite the cost of preparation in exchange for a commitment to teach, should be developed and used to recruit teacher candidates into high-quality preparation programs. Research shows that these programs can be especially effective in recruiting and retaining teachers of color, who typically carry higher levels of student debt.[65] Research also shows that candidates of color and candidates from low-income households perceive student loans as a greater burden than other students with similar student debt

earning similar salaries.[66] Several states offer service scholarships or loan forgiveness programs aimed at increasing the number of teachers of color, including Florida's Fund for Minority Teachers, the Missouri Minority Teaching Scholarship, the Tennessee Minority Teaching Fellows Program, and the Kentucky Minority Educator Recruitment and Retention Loan Forgiveness Program.[67]

Additionally, Pennsylvania could consider potential barriers that exist within its licensure or accreditation system, as well as opportunities to provide greater flexibility to programs in recruiting more racially diverse teacher candidates. Pennsylvania might **evaluate its current tests—including the basic skills and subject matter tests—**for their disparate impacts and evidence of relationship to capacity to teach and consider which tests are needed—and where alternative means of demonstrating competence are appropriate. Evaluating the impact of a basic skills test on teacher quality and teacher diversity was also among the recommendations of Pennsylvania's ESSA stakeholder work group on educator preparation.

The ESSA stakeholder work group also suggested that the state consider opportunities to provide **flexibility around the current 3.0 GPA requirement for entrance into a postbaccalaureate teacher preparation program.**[68] Dr. Tyra Good from Chatham University highlighted instances where promising candidates were denied admission to the preparation program because of their undergraduate GPA, although the candidates had graduated from college many years prior and had since then gained relevant life and work experience, including in one case working as a successful paraprofessional in the classroom.

Pennsylvania might also consider strengthening the use of **teacher performance assessments** (described further below) to assess a candidate's readiness to teach, building on the work of the 16 Pennsylvania institutions that are already implementing the edTPA teacher performance assessment. Research suggests that performance assessments may reduce barriers to entry into the profession for teachers of color and result in fewer and smaller disparities between racial and ethnic subgroups.[69] In considering the implementation of a teacher performance assessment, the state has the ability to impact not just the quality of graduating teachers but the overall racial diversity of the state's future teacher workforce.

A number of other teacher recruitment and retention initiatives may also prove effective in increasing the diversity of the teacher workforce. Pennsylvania's ESSA plan proposes to support partnerships that **prepare paraprofessionals to become teachers**.[70] These types of grow-your-own programs, when combined with financial support to the paraprofessionals training to be teachers, have proven successful in recruiting and retaining teachers of color.[71] The Heinz Fellows Program,[72] operated out of the University of Pittsburgh School of Education's Center for Urban Education, was highlighted by the Remake Learning network members as an example of an existing program seeking to address multiple needs, including diversifying the educator workforce and ensuring educators are well prepared to meet the needs of their students. Specifically, Heinz fellows take part in a yearlong opportunity working in urban schools in collaboration with teachers, staff, and school leaders to support students in academic, social, and emotional growth, while building knowledge and skill necessary to work in urban contexts. Fellows earn a competitive stipend for participation and a certificate from the Center for Urban Education upon completing

the program. Unfortunately, though, the Fellowship is not currently structured as a teacher preparation program leading to a teaching credential.

Pennsylvania might also consider **shining a spotlight on teacher diversity in state reports** about programs as a means to prioritize the recruitment and retention of a diverse teacher workforce at both the state and the program level, as Oregon recently has done. **Oregon** has sought to create partnerships across state agencies and built a coalition focused on increasing teacher diversity statewide. The initial focus of these efforts has centered around data collection and the publication of annual Educator Equity Reports. By law, the Chief Education Office, the Higher Education Coordinating Commission, the Oregon Department of Education, and the Teacher Standards and Practices Commission are required to jointly create an annual report on the Educators Equity Act. In 2016, the Oregon Senate passed SB 3375 requiring all teacher preparation programs to develop plans to promote the recruitment and preparation of diverse educators.

Clinical Experience

Strengthen clinical field experiences by incentivizing partnerships and professional development schools, increasing clinical hours to provide candidates with greater opportunity to learn and practice sophisticated teaching skills, and boosting standards, training, and compensation for cooperating teachers.

While the state currently emphasizes the need for teacher candidates to gain experience in diverse settings, Pennsylvania policy could be further strengthened to increase candidates' access to clinical training in schools and classrooms where deeper learning is the norm. As highlighted by the Remake Learning teacher preparation working group, institutions of higher education and preparation programs recognize that the availability of these opportunities will depend on the collaboration of programs and districts to better identify quality mentor teachers. In addition, support for the professional development of both clinical faculty and experienced teachers is needed to support candidates in acquiring and practicing the skills and knowledge that reinforce deeper learning.

To achieve this desired movement toward clinical experiences that support teacher preparation for deeper learning, Pennsylvania will need to act to strengthen partnerships between preparation programs and k-12 districts and strengthen clinical training requirements outlined by the state.

Below, we recommend five ways that PDE might increase teacher candidates' access to clinical training in deeper learning settings:

1. Incentivizing the development of "professional development schools"
2. Placing a greater emphasis on clinical partnerships between k–12 schools and teacher preparation programs in the program review and accreditation process
3. Building state and/or regional networks of partnerships that support knowledge sharing and provide a structure within which existing partnerships may continue to grow and new partnerships can take root

4. Expanding the required duration of clinical experiences beyond the current minimum of 12 weeks to a full year
5. Increasing investment in and support for the training of cooperating teachers.

These recommendations are consistent with many of the recommendations for strengthening clinical training put forth by stakeholders during the development of Pennsylvania's ESSA state plan.[73]

Professional development schools

Professional development schools are partnerships between k-12 schools and teacher preparation programs, where new candidates complete their coursework and student teaching at a specific partner school. This mutually beneficial relationship creates a school environment in which teacher candidates receive high-quality clinical training, the school staff receives high-quality development, and the school benefits from the support of the teacher preparation program faculty. The relationship between the two institutions allows new teachers the opportunity to integrate more closely into the wider school community and build stronger professional relationships with staff beyond just their mentor teacher. As outlined in one research review, in a professional development school, prospective teacher and mentor teacher learning becomes experimental, grounded in teacher questions, collaborative, connected to, and derived from teachers' work with their students, and sustained, intensive, and connected to other aspects of school change.[74] Professional development schools have been found to produce stronger outcomes for all teachers in these schools and stronger retention.[75]

Pennsylvania has some strong examples of professional development schools, but they are not widespread. Pennsylvania State University operates a Professional Development School Partnership with the State College Area School District that includes every elementary school in the district, both middle schools, and a program for English at the secondary level. The partnership received the "exemplary professional development school" distinction in 2009 from the National Association for the Accreditation of Teacher Education (NCATE).

Carlow University, a member of the Remake Learning work group, currently operates a professional development school in collaboration with Beechwood Elementary School in Pittsburgh that offers teacher candidates opportunities to experience and practice deeper learning pedagogy. Keely Baronak, Associate Professor of Education and Chair of the Education Department, teaches a mathematics methods course at the school and recruits veteran teachers there to provide modeling and instruction in relevant teaching methods for her teacher candidates. The course meets at Beechwood from 1-4 p.m. one day a week, with teacher candidates observing expert teachers on-site teaching mathematics in different grade levels from 1 to 3 p.m. From 3 to 4 p.m., Professor Baronak, assisted by expert Beechwood teachers, teaches the mathematics methods course in the school's STEM lab, a setting that provides rich opportunities for the teacher candidates to become more adept at integrating the lab tools into their pedagogy. Professor Baronak spoke about the benefits to her teacher candidates by having the Beechwood faculty— some of whom are Carlow graduates themselves—"equalize who faculty are" for Carlow students and take an explicit role in training individuals who can serve as Beechwood Elementary School's future teachers. At the same time, she noted that she is currently unable to provide compensation

for the Beechwood faculty who guest teach in the mathematics methods course, nor is there funding to provide shared professional development for the faculty and teacher candidates.

Tom Ralston, Superintendent of Avonworth School District, echoed the need to create more opportunities for teacher preparation faculty to be on-site in schools and to incentivize the creation of more professional development schools. He noted Avonworth School District's partnership with Geneva College to prepare special education teachers: "We gave them a classroom on-site. The teacher candidates spent half the day in our classrooms, and the other half of the day they took their coursework. It was so appreciated by the school and the teachers."

Both Superintendent Ralston and Professor Baronak also described the impact of these relationships between teacher preparation programs and districts on hiring. At Beechwood Elementary, some of the teachers are Carlow graduates, who are both meeting the district's needs for high-quality teachers but also the university's needs for high-quality mentor teachers to train the next generation of teachers. Superintendent Ralston has instituted robust hiring practices—including for Geneva graduates— that include teaching a sample lesson and participating in a second-round group interview in which candidates move through a "critical friends" protocol. This process gives district staff an opportunity to assess candidates' ability to reflect on their teaching, to give and receive feedback, and to incorporate feedback into a revised lesson plan. These examples demonstrate the strong benefits of the professional development school model, but leaders were clear that it is difficult to get these mutually beneficial partnerships off the ground without additional state support.

Modest state funding can be leveraged to incentivize the development of more professional development schools across the state of Pennsylvania—an approach that other states have used. For example, in 1996, the **North Carolina** state legislature supported, under the University-School Teacher Education Partnerships (USTEP) program, the creation of a network of professional development schools serving UNC Wilmington and UNC at Pembroke. At the time of a 2004 report on the progress of USTEP, the state legislature was funding partnerships across the state, including the network of professional development schools, with $1.8 million annually.[76]

In 1999, the **Maryland** State Department of Education (MSDE), in collaboration with the Maryland Higher Education Commission (MHEC) and the Maryland Partnership for Learning K-16, was awarded a $6 million U.S. Department of Education Title II Teacher Quality Enhancement (TQE) grant for the express purpose of fully implementing the *Redesign of Teaching Education in Maryland*. On the back of this award, the state was able to provide funding to colleges and universities to develop and maintain professional development schools. Currently, MSDE sponsors regional network meetings of stakeholders in the Maryland Professional Development School Network, a network connecting Maryland colleges and universities and their local school system partners in their efforts to implement the redesign program. The meetings are designed to engage the wider educational community in sharing data, experiences, and lessons learned as a result of their ongoing work and are a further example of direct state support for professional development schools.[77]

School-university partnerships often exist tenuously, on soft money or at the margins of institutions driven by particular individuals, and many have come and gone due to the vicissitudes of changing

budgets. Without ongoing support, it is difficult to sustain collaboration between schools and universities. While some programs across the country have been successful in designing long-lasting models, the capacity to sustain all the sites and expand this practice has been limited by funding. Both North Carolina and Maryland eventually lost the streams of funding highlighted above, and while some universities continued their school partnerships, many did not.

State funding for such initiatives would help to seed additional professional development schools such as those described by Professor Baronak and Superintendent Ralston and institutionalize needed preparation reforms. Modest investments can help to improve key outcomes of teacher education—teacher entry, initial competence, and retention. With these partnership models in mind, Pennsylvania should provide **grants to partnering teacher preparation programs and districts to incentivize the creation of professional development schools in all regions of the state.** Additionally, best practices from these pilots could be disseminated across the state and used to support the growth of additional professional development school relationships and the strengthening of partnerships in more traditional preparation models.

Prioritizing partnerships in program accreditation

Pennsylvania can also work to strengthen clinical training by including a **greater emphasis on clinical partnerships between k–12 schools and teacher preparation programs in the program review and accreditation process**.

While Pennsylvania does currently require narrative evidence of partnerships between preparation providers and participating districts, the Department does not necessarily support the collection of relevant data that could help shed light on the current state of partnerships and the steps needed for improvement. **Massachusetts** includes a partnerships element in the Department's formal review and ties program approval to explicit criteria, including:

- sponsoring organization responds to the needs of pre-k–12 districts/schools;
- pre-k–12 partners make contributions that inform sponsoring organization's continuous improvement efforts;
- partnerships improve experience for preparation candidates;
- partnerships positively impact the outcomes of pre-k–12 students; and
- sponsoring organization evaluates partnerships on an ongoing basis, sustains those that are effective, and takes steps to improve those that are not.

The Massachusetts Department of Elementary and Secondary Education prioritizes and supports these partnerships by annually surveying hiring principals and supervising practitioners and sharing the data back to programs. While PDE currently advises programs that such surveys would be beneficial, they are not required to survey partnering districts or hiring principals, and there is no statewide system to support reliable data collection to inform this vital element of teacher preparation.

As part of updates to the regulations governing teacher preparation, the state board and Department could consider additional structures to support the development of quality partnerships that can, in turn, support stronger clinical practice models. There are a number of potential structures the state

could adopt—from requiring more robust reporting on partnerships as part of the program review process to requiring (rather than simply encouraging) the use of employer surveys. Employer surveys can provide data on the progress of program completers working in district classrooms and can encourage programs to consider opportunities to build deeper relationships with the schools where their graduates end up working. The state could also begin collecting data on the level of engagement preparation programs have with districts around induction and support for candidates once they are in the field to better understand how the current regulatory requirement that programs continue this support is actually playing out on the ground.

State and regional partnership networks

On top of building elements of successful partnerships into the formal program review process, states have other tools available to improve and support the growth of partnerships between preparation programs and local districts. Both **Tennessee** and **Georgia** have sought to build networks of partnerships that support knowledge sharing and provide a structure within which existing partnerships may continue to grow and new partnerships can take root. Tennessee's initial network for teacher preparation partnerships started as a pilot program through which the state would develop key recommendations and requirements for revisions to the program approval process.[78] Georgia's P20 Regional Collaboratives bring together leadership from preparation programs and local districts with the goal of building and sustaining a network of leaders focused on sharing and disseminating the progress from partnerships. The collaboratives also helped spur the creation of professional development schools.[79]

The need to support partnerships between k-12 districts and educator preparation programs—and the opportunities to help improve preparation, induction, and professional development through these collaborations—remains paramount to state efforts moving forward. Partnerships featured heavily in the recommendations from the Governor's task force back in 2005 and should continue to take a central role in future efforts to strengthen teacher preparation in Pennsylvania.[80] The state could **build out regional partnership collectives** established with seed funding that will allow district and preparation leaders to convene on a regular basis and build the relationships that help support the sharing of best practices and the establishment of new partnerships. Additionally, the state could **initiate a pilot study of partnerships in different parts of the state to better understand the current state of these relationships** and begin building out tools and recommendations that could help inform a more focused state-level push to support and grow quality clinical practice partnerships between k-12 districts and preparation programs.

Strengthening clinical training requirements

To support more rigorous clinically based preparation across the state, **Pennsylvania should consider lengthening the required duration of clinical experiences from the current requirement of a minimum of 12 weeks to a minimum of 18 weeks, which is a common requirement across states, and preferably a full year**, which is the emerging standard suggested by research.[81] This expansion of the clinical requirements can provide candidates with greater opportunities to experience and practice the sophisticated teaching practices required to support deeper learning. Furthermore, candidates benefit from the experiences gained working in a

classroom at the start of the year when systems are implemented that provide a foundation for successful classroom operation throughout the rest of the school year.

Other states have successfully implemented more robust clinical training requirements, leveraging federal funds to support their transition. For example, in 2016, the **Louisiana** Board of Elementary and Secondary Education formally adopted regulations requiring a yearlong residency as a pathway to licensure. The regulations are designed to provide teacher candidates with a full-year classroom residency alongside an experienced mentor teacher, coupled with a competency-based curriculum that will provide them with the knowledge and skills needed for their first day of teaching. The state intends to use Title II funds to support its ongoing effort to develop and implement these yearlong teacher residencies. To support the implementation of these new regulations, Louisiana committed to funding support staff costs related to the transition of preparation programs, a $2,000 stipend for candidates completing yearlong residencies, and a $1,000 stipend for mentor teachers hosting yearlong residents. In total, $7.3 million will be used as transitional funding through 2019 for university administration costs, teacher resident stipends, and mentor teacher stipends and training. The source of funding will include IDEA and Title II funds, in additional to state funds. Funding for rural school systems and their preparation partners will come through the Department of Education's 5-year, $66.8 million Teacher Incentive Fund (TIF) grant. Long-term funding commitments include use of the state's Title II set-aside to support stipends and training for mentor teachers.[82]

Additionally, to ensure the quality of expanded clinical training, **Pennsylvania should consider increased investment in and support for the training of cooperating teachers**. Pennsylvania has the opportunity to ensure cooperating teachers are not just equipped to model deeper learning practices themselves, but that they are able to effectively develop the skills of a novice teacher in advancing deeper learning. Further, this increased level of expertise and the additional time needed to improve the skills of cooperating teachers should be combined with **financial incentives, such as stipends, that compensate cooperating teachers for the important role they play** in supporting the development and growth of teacher candidates and for the added responsibilities of supporting a candidate over the course of the expanded yearlong clinical experience.

Other states are moving to strengthen clinical training for candidates by investing in the quality of the cooperating teachers, who are essential to ensuring a high-quality clinical placement. For example, the **Kentucky** Education Professional Standards Board (EPSB) currently operates a system that requires preparation programs provide training to cooperating teachers that includes the basic responsibilities of the cooperating teacher, best practices in supporting the student teacher, and effective assessment of the student teacher. This training is provided at no cost to the cooperating teacher and is joined with the Cooperating Teacher Payment Program, which provides compensation from the state to eligible teachers who supervise a student teacher enrolled in an in-state accredited college or university teacher preparation program. In 2016–17, the state paid these teachers $4.01 per day of supervisory work. While the amount of compensation should reward and reflect the level of expertise and quality that cooperating teachers bring to a mentoring relationship, both the effort to ensure consistent training for all cooperating teachers and the compensation granted to teachers who take on the responsibility of supporting a student teacher provide a state with opportunities to reinforce particular skills or knowledge deemed vital to supporting deeper learning in the classroom.[83]

Connecticut's Teacher Education and Mentoring (TEAM) Program includes an Initial Support Teacher Training (IST), which runs over three days and is made available to individuals selected by their districts to serve in the role of mentor or cooperating teacher. Participants are guided through the state's mentoring modules for beginning teachers and provided support in developing effective coaching strategies for student teachers.[84]

By expanding the clinical practice requirements and creating stronger supports for cooperating teachers, Pennsylvania can develop the conditions for innovative preparation models and higher-quality clinical training for future teachers.

Continue to support the development of high-quality teacher residency programs aligned with teacher preparation for deeper learning.

One of the strongest models for providing high-quality clinical training is the teacher residency model, which was highlighted as a priority within Pennsylvania's ESSA state plan and on which the state has recently taken major steps forward. Newly emerging teacher residency programs offer an innovative and effective approach to recruiting and retaining high-quality teachers, and thus are also a key tool to address teacher shortages, while strengthening the quality of teacher preparation.

This model consolidates much of what is known about high-quality teacher preparation into its design. Research highlights the following eight characteristics of strong residencies:

1. Strong district/university partnerships
2. Full-year residency teaching in the classroom of an expert mentor teacher
3. Financial support to cover tuition and living expenses for residents in exchange for a 3- to 4-year teaching commitment
4. High-ability, diverse candidates recruited to meet specific district hiring needs, typically in fields where there are shortages
5. Expert mentor teachers who co-teach with residents
6. Cohorts of residents placed in "teaching schools" that model good practices with diverse learners and are designed to help novices learn to teach
7. Coursework for the credential tightly integrated with clinical practice
8. Ongoing mentoring and support for graduates.[85]

Many residency programs across the country were created or expanded through the federal government's Teacher Quality Partnership Program (TQP), including the Temple Teacher Residency, which received a TQP grant in 2014. Studies of TQP-funded programs—as well as studies of individual TQP grantees—consistently point to the high retention rates of teacher residency graduates, even after several years in the profession, ranging from rates of 80–90% in the same district after 3 years and 70–80% after 5 years.[86] In addition to increased retention rates, especially in high-need districts, research also suggests that, on average, individuals prepared through the residency model are more racially diverse than other new teachers.[87]

Building on the vision set forth in Pennsylvania's ESSA plan, PDE in May 2018 kicked off a new competitive grant program to support the growth of teacher and leader residencies in the state. The

[Innovative Teacher and Principal Residency Program](#) provides $2 million in Title II, Part A funding to support implementation or expansion grants of up to $750,000 and planning grants of up to $75,000. The program's requirements and priorities reflect the research-based elements described above. Educator preparation programs must apply in partnership with high-need LEAs, creating opportunities for new and strengthened partnerships across the state as well as new professional development schools to train resident teachers. Grants, to be awarded in July 2018, are 1 year (2018–19). The PDE expects this to be the first of a multiyear competitive grant program.

With this step, the state has affirmed its commitment to developing teacher residency models across the state that will both strengthen the quality of teacher preparation and improve teacher recruitment and retention in high-need subjects and schools. Such an approach will build on the handful of teacher residency programs that are already operating in Pennsylvania. Pennsylvania joins a number of other states that have recently made significant investments in residency programs, including California, Louisiana, Tennessee, and Texas. This expansion of teacher residency models in Pennsylvania may prompt the state to revisit the parameters of the existing Pennsylvania Residency Certificate,[88] which do not currently align with existing practice in the state nor with the parameters of the [Innovative Teacher and Principal Residency Program](#).

Pennsylvania K–12 Framework for Preparation

Strengthen existing framework to include additional competencies that signify candidates are well prepared to teach for deeper learning.

Pennsylvania's current framework for teacher preparation provides a strong foundation for building a system that supports teacher preparation for deeper learning. Many of the competencies contained in the Framework are aligned with deeper learning principles, but there is room for focusing the efforts of teacher preparation programs by adding greater emphasis to all elements of teacher preparation for deeper learning. There is room for additional focus on a teacher's role in advocating for social justice in the classroom and against the historical inequities schools have continually reproduced. While the competencies demonstrate some attention to issues of equity (specifically, language in the PDE-430 student teaching assessment tool), both the competencies for teachers and requirements for preparation faculty could provide further detail on skills and behaviors needed to support a more equitable distribution of educational opportunity and resistance to historical systems of inequity.

Furthermore, an added emphasis on assessment that prizes innovative and project-based models would help ensure educators take advantage of added flexibility to pursue these elements of deeper learning. Additionally, the attention to the social-emotional needs of students and the competencies that help promote communities of mutually supportive learners are all welcome priorities and can be enhanced with more explicit detail on the types of competencies that would produce more learner-oriented classrooms and reinforce the principles that help support more democratic and interactive learning environments. As mentioned earlier in this report, the state recently approved a [Social, Emotional, and Behavior Wellness of PK-12 Students Endorsement Program](#), which supports educators in acquiring and developing skills to support the social, emotional, and behavior wellness of students. Given the importance of these skills for all teachers and school-based administrators, it seems important for the state to move toward ensuring all teachers acquire these

skills during preparation and not just a narrow subset of teachers through an additional endorsement route.

California's Teacher Performance Expectations (TPEs), revised in 2013, offer an example of a detailed set of competencies that provide a vision of early teaching that consistently prioritizes key elements of teacher preparation for deeper learning. These TPEs—which candidates are expected to demonstrate they have met through passing California's teacher performance assessment—articulate a vision for student learning, teacher behavior, and wider community involvement that guides preparation programs and candidates toward the principles of teacher preparation for deeper learning.[89]

For example, in prioritizing social justice and equity-oriented practice, California outlines the following competencies:

- o "Critically analyze how the context, structure, and history of public education in California affects and influences state, district, and school governance as well as state and local education finance."

- o "Recognize their own values and implicit and explicit biases, the ways in which these values and implicit and explicit biases may positively and negatively affect teaching and learning, and work to mitigate any negative impact on the teaching and learning of students. They exhibit positive dispositions of caring, support, acceptance, and fairness toward all students and families, as well as toward their colleagues."

To consider the social and emotional needs of all students and the need for educators to promote active learning behaviors:

- o "Connect subject matter to real-life contexts and provide active learning experiences to engage student interest, support student motivation, and allow students to extend their learning."

- o "Promote students' social-emotional growth, development, and individual responsibility using positive interventions and supports, restorative justice, and conflict resolution practices to foster a caring community where each student is treated fairly and respectfully by adults and peers."

Finally, to integrate this active learning orientation with reflection and assessment practices:

- o "Involve all students in self-assessment and reflection on their learning goals and progress and provide students with opportunities to revise or reframe their work based on assessment feedback."

As the state begins the mandated 10-year review of Chapter 49 of the Pennsylvania Code, there are opportunities to strengthen the language in the state's competencies for teacher preparation to ensure they support teacher preparation for deeper learning. Additionally, by integrating the language of

teacher preparation for deeper learning more deeply into the competencies for preparation programs, the state can establish priorities that will guide preparation for the next decade.

Performance Assessments and Licensure

As a condition of licensure, require candidates to pass a statewide beginning teacher performance assessment, aligned to deeper learning skills and competencies, and incorporate candidate results into the program accreditation and continuous improvement process.

While there are a number of state competencies that are aligned with teacher preparation for deeper learning, the authority to measure a candidate's ability to acquire and demonstrate these skills currently lies entirely with the preparation program provider. Because the state provides programs flexibility in designing and assessing candidate performance tasks throughout preparation, programs alone are responsible for reporting the results of these assessments and for making the final recommendation to the state on a candidate's eligibility for licensure. At no point is the state able to assess a candidate's ability to demonstrate these skills, outside of the program's recommendation and limited data provided through student teaching, prior to receiving a license and entering the classroom. Instead, the only statewide assessment of a candidate is the Praxis II subject-matter exam taken prior to earning a license. The Praxis exams, which are largely multiple choice, are not designed to assess a candidate's competency in teaching for deeper learning.

By contrast, a teacher performance assessment—which typically requires a candidate to plan a lesson mapped to the state's learning standards, teach it, assess students' learning, differentiate for diverse students' needs, and reflect on their teaching—addresses deeper learning competencies. If Pennsylvania intends for state licensure to indicate a candidate's ability to teach, then the state could consider a requirement that holds greater predictive validity for future success in the classroom, as teacher performance assessments have been shown to do.[90]

Pennsylvania could **provide support to programs in implementing a performance assessment requirement for licensure**, such as the edTPA, which is currently used by 18 states for licensure and is voluntarily used by 16 programs in Pennsylvania. Some states require all candidates to pass a performance assessment for licensure and allow programs to develop and/or choose among multiple alternatives that meet common standards and are approved by the state. Having a choice of performance assessments—perhaps including one developed based on the PDE-430 assessment—is an option for Pennsylvania to consider.

The nature of the tasks candidates are required to complete through edTPA and the rubrics on which they are scored focus on student learning and the needs of the learner. They encourage candidates to ensure they are creating integrated learning experiences that are paired with authentic assessment practices. **Minnesota** began implementing the edTPA statewide in 2012 as information for accreditation and has recently required all teacher candidates to pass the assessment prior to earning initial licensure.[91] **Connecticut** has been piloting edTPA in several state preparation programs, and by 2019 will require a passing score for all candidates completing a preparation program, both traditional and alternative.[92] **Washington** state requires that all candidates pass the

edTPA to qualify for initial licensure and has added a student voice component to the assessment.[93] Other states that are either moving toward full implementation of a performance assessment requirement that includes edTPA or that currently require a passing score on edTPA for licensure include **Delaware**, **Georgia**, **Illinois**, **New Jersey**, **New York**, **North Carolina**, **Oregon**, **Tennessee**, and **Wisconsin**.[94]

A number of states have also created their own state-specific performance assessments. **Massachusetts** is currently implementing the Candidate Assessment of Performance (CAP) and requires that all candidates pass it prior to earning the state teaching license. Since 2008, **California** has required all candidates to pass a teacher performance assessment as a condition of licensure but allows programs to choose from among state-approved models to administer to their candidates. California's teacher performance assessments—which currently include the CalTPA, the PACT, and the edTPA—allow for both local and centralized scoring.[95] **West Virginia** also recently moved to require a teacher performance assessment for teacher candidates.

In considering the implementation of a statewide performance assessment, interested stakeholders may want to look to short-term changes in current policy implementation that might lead programs toward improved preparation. In lieu of or in addition to adopting a new performance assessment, the state could consider opportunities to reinforce a continuous improvement process across programs through the use of the PDE-430 student teaching evaluation form using new processes that provoke stronger and more consistent assessment and feedback than are currently in place[96] (see Appendix B). Members of the Remake Learning teacher preparation working group, in highlighting the imperative toward compliance that drives the use of the form, pointed to the potential shift in mind-set that could come from programs holding conversations about their candidates that are grounded in the student teaching evaluation form, much like some programs use the teacher performance assessment. The quality of these conversations would depend on the quality of information gleaned from the form, which could also lead to more substantive conversations between k–12 and preparation partners around the use of the form beyond the two state- required summative evaluations.

An alternative approach to a pre-service performance assessment is a robust induction program with a performance assessment component, such as **Ohio's** Resident Educator Program. This program requires that all new teachers take part in 4 years of professional development during which they receive mentoring and support. Participants in the program also complete the Resident Educator Summative Assessment (RESA), a statewide performance assessment that requires the submission of evidence of their teaching by their third year in the classroom. Candidates completing the RESA must provide evidence of their teaching and its impact on student learning. New teachers hold an initial Resident Educator license and must complete the required 4-year program, along with the performance assessment, in order to qualify for the state's 5-year professional license. **Pennsylvania could consider implementing a statewide performance assessment during induction and as a requirement for earning the state's Instructional II license**.

For Pennsylvania, implementing a well-designed statewide performance assessment could help candidates bring together and practice what they are learning, and help preparation instructors see what their candidates can do as well as what they need to work on. This enables instructors, supervisors, and cooperating teachers to ensure that learning is focused and that appropriate support is provided in the learning-to-teach process. Coupled with an effort to strengthen Pennsylvania's preparation standards, performance assessments could also provide an important tool for evaluating whether teacher candidates have met those standards and should be awarded a Pennsylvania teaching license.

At the same time, the recent history of performance assessment implementation highlights the need for quality engagement across all state preparation programs and a process of support that ensures faculty, candidates, and mentor teachers are all prepared for the shifts that come with a required performance assessment.[97] When implemented well, faculty report strong benefits from using results of teacher performance assessments to improve their practice and their programs.[98]

Data Collection and Accreditation

Collect and report back to programs comparable data for all programs that are aligned to teacher preparation for deeper learning, including, for example: candidate and employer surveys that ask explicitly about preparation for deeper learning practices and outcomes on teacher performance assessments that reflect deeper learning practices.

The Department currently collects annual data on program enrollee retention, program completers, passing rates on licensure exams, hours of student teaching, hours of field experience, and the percentage of supervisors with at least 3 years of k–12 classroom experience. While data on retention and completion can prove valuable in understanding a program's ability to support candidates through preparation, many of the annual indicators fail to provide actionable information to either the state or preparation programs. Additionally, despite language that highlights the state's focus on program quality and improvement, there isn't a clear and reliable system by which programs can learn about their candidates once they complete their preparation. This inhibits an institution's ability to engage in regular and meaningful continuous improvement conversations and presents a clear opportunity for the Department to drive program change through state-level data collection and reporting. Specifically, **to support programs in implementing the practices of teacher preparation for deeper learning, Pennsylvania could consider collecting and reporting evidence on graduate and employer surveys regarding aspects of preparation, as well as performance assessments that evaluate these abilities**.

The movement in states toward indicators and dashboards on preparation programs provides Pennsylvania with a range of potential models for building a statewide teacher preparation data system that can inform program approval decisions and support continuous program improvement. If the goal of the state's system for program review is continuous improvement at the program level, then a low-stakes indicator approach modeled after states like **Washington and Missouri** could prove valuable (p. 16). These states set performance benchmarks for their system of indicators. If a program falls below the benchmark, the state then steps in for further investigation and review. Missouri's indicators include program completers' evaluation of their

program at completion and in the first year of teaching. There is an additional indicator that looks at a supervisor's evaluations of new teachers' pre-service preparation.

Washington reports candidate scores on edTPA (the state's pre-service performance assessment), p–12 students' perceptions of new teachers' effectiveness, and the persistence of completers in teaching. According to the state's Professional Educator Standards Board, there are future plans to implement an indicator for clinical partnerships.[99]

Pennsylvania could invest in a data system that reports on indicators of quality and provides annual data back to preparation programs. The selection of indicators that provide regular and actionable information back to programs is an important step in establishing a state teacher preparation system that can support the preparation of teachers for deeper learning. Potential high-leverage indicators could include: teacher performance assessment scores and candidate and employer surveys that ask explicitly about preparation for deeper learning practices.

While the state currently encourages the use of new teacher surveys as a tool for program improvement, the state could go further by requiring the use of these surveys and designing a survey instrument that includes survey items related to how well candidates were prepared to teach for deeper learning. **California** is in the process of building surveys of all program graduates, as well as of master teachers and employers, into its program accreditation process. It has ensured high survey response rates (more than 90%) by requesting program graduates to complete the survey online as they submit their online application for their teaching credential.

Revise accreditation processes by implementing more regular data collection and continuous improvement processes (e.g., every 2 years).

Establishing performance-based accreditation of teacher education programs, so that the focus of program approval is on what candidates know and can do, rather than how many courses or credits they have taken, is a critical step toward supporting teacher preparation for deeper learning.[100] While Pennsylvania approves programs and does not require national accreditation, its process does not yet incorporate and enforce clear requirements for the kinds of practices that support teacher preparation for deeper learning:

- demonstrated coherence around a vision of practice grounded in what we know about deeper learning;
- modeling of powerful teaching practices in university coursework, along with the provision of concrete strategies and tools for practice;
- demonstrated connections between theory and practice and between coursework and clinical work; and
- extended, well-planned, carefully supervised clinical training in sites that also instantiate these practices.

Even when these practices are present in some universities' programs, those same universities might often operate other, weaker programs that do not offer the same features. Despite the fact that the achievement of goals is not universal across programs, accreditors commonly approve the program provider, allowing low-quality programs a free pass.

However, to enforce standards universally, it is critical to know whether the standards have indeed been met, a challenging feat when the evidence consists of reams of paper describing self-reported practice. Because of this challenge, there is currently a move across professions—ranging from medicine and engineering to occupational health and safety—toward what a form of performance-based accreditation, which depends on demonstrations that graduates have the required knowledge, skills, and dispositions—usually through surveys about their training and observations of their practice—rather than programs' ability to complete hundreds of pages of reporting about program activities.

Policies that are effective combine the right mixture of pressure and support for change in ways that increase the capacity for good practice among the institutions that are the targets of the policy. While stronger, more widely enforced standards for preparation programs and more useful and authentic assessments of teaching skills can provide information as well as productive pressure for change, supports are also necessary.

One set of needed supports has to do with incentives for the creation and institutionalization of school-university partnerships needed to support strong clinical practice. An adjunct to these supports is targeted incentives for seeding the creation of high-quality teacher education programs, such as teacher residencies, in the low-income urban and rural areas where well-prepared teachers are most needed and least available. Additionally, a state-level data system that can help both preparation programs and the state understand and measure progress toward teacher preparation for deeper learning is an essential next step for a state like Pennsylvania.

With an improved data system that provides more continuous data back to programs, PDE could consider how to revamp the program review process to coincide with these improved reporting changes. Given the express purpose of the program review process to "serve as elements in a feedback mechanism to examine individual candidate growth, as well as the overall health and vitality of the program under review," the current 7-year feedback cycle provides little actionable information to programs. Even the reporting requirements provide little indication of what the state considers effective or ineffective outcomes. If the state intends to identify programs that might require greater support, including in implementing a shift toward teacher preparation for deeper learning, current data reporting and program approval systems leave both programs and the Department without clear indicators for success, and without a more frequent feedback cycle for programs to use in their continuous improvement efforts.

Fortunately, there are state accreditation systems that offer models as to how a state can determine in a timely way which programs are routinely preparing high-quality educators and which might need further support in moving toward high-quality teacher preparation for deeper learning.

Like Pennsylvania, **Massachusetts** maintains a 7-year review cycle, but the state builds in more robust data collection and reporting to ensure the timely delivery of actionable data back to programs. Massachusetts also provides opportunities for program reviews outside the 7-year cycle. The Department reserves the right to implement interim reviews for programs if the Department determines that the program does not meet requirements through annual data collections. Programs can receive the following designations: Approved with Distinction, Approved, Approved with

Conditions, Probationary Approval, and Not Approved. A key component of the review process is the site visit that occurs during the formal program review. The system is meant to provide incentives to programs working to make consistent improvements beyond just earning basic approval status, and to allow the state to help identify best practices and share knowledge across quality programs.

California is another state with a more robust 7-year review cycle. Having made recent revisions to its process that include annual data submissions, California also requires surveys of program completers, master teachers, and employers that inform site visits, determinations of effectiveness, and can be included in the accreditation report.[101] The outcome data in these annual reports serve as flags that can be used at any moment in time to trigger a review if candidates report they are not being properly prepared or employers feel they are poorly prepared. It is in this way that California and states like **Washington** and **Missouri**, as outlined in the previous recommendation, are able to better support continuous improvement and greater accountability in a more timely manner.

For state departments facing capacity challenges, **Ohio** and **Connecticut** offer a model in which they have tied Council for the Accreditation of Educator Preparation (CAEP) accreditation to their state program approval process. As part of its CAEP partnership, Ohio requires national accreditation for program approval and provides three pathways for programs that lead to state approval. The state chancellor reviews all findings from each CAEP program review/report and makes a final state program approval decision. This allows the state final say on program approval, while utilizing the CAEP process and site visit system to inform decision-making. As part of recommendations put forward by Connecticut's Educator Preparation Advisory Council (EPAC), the state transitioned in 2017 to using the CAEP standards for state program approval and adopted CAEP's 7-year visit cycle for continuing program approval. The State Board of Education will make final continuing preparation program approval decisions based on the recommendations from the Educator Preparation Review Committee and the Commissioner. Ultimately, any changes to the current system should focus on providing reliable and actionable information back to programs and providing supports to implement processes of continuous improvement.

To improve the accreditation process, **Pennsylvania should work closely with stakeholders in preparation programs and districts to develop a set of priorities for the major review and consider collecting some data more regularly, such as annually or biannually, which could then trigger program support and intervention if needed.** If the state intends for districts and preparation programs to work more closely together to help improve the overall preparation of candidates, then the state should ensure the major review process produces more detailed data and reporting on indicators that would reflect high-quality preparation partnerships. Additionally, if the state intends for preparation programs to support the improved racial diversity of the teacher workforce, then the state should consider how the accreditation process supports the recruitment of (and support for) diverse candidates during their program experience and once they have entered the classroom to begin teaching. Once the priorities have been established and paired with more meaningful data collection and dissemination, the Department should undertake intensive support efforts to help programs manage this transition toward a more robust continuous improvement model.

Conclusion

This report describes a number of possible pathways that Pennsylvania could take to increase the likelihood that the state's teacher preparation programs provide teacher candidates with the knowledge, skills, and experiences that will enable them to provide deeper learning opportunities for their students. At a time when the state is beginning to implement its ESSA state plan—as well as undertaking a revision to its teacher certification framework—this may be a particularly opportune moment for revisiting Pennsylvania's teacher licensure and accreditation policies. We recommend that the state—along with key stakeholders, including higher education, local educational agencies, educators, parents, students, community partners, and others—engage in robust dialogue to explore what potential policies might be effective given Pennsylvania's unique context, and then act with urgency to ensure all students are taught by teachers who are well prepared to facilitate the deeper learning opportunities all students deserve.

Appendix A

Remake Learning Teacher Preparation Working Group

Keely Baronak, Carlow University
Erin Cawley, Avonworth School District
Richard Fuller, Robert Morris University
Brian Glickman, Pittsburgh Public Schools
Tyra Good, Chatham University
Kristen Harty, Chatham University
Rae A. Hirsh, Carlow University
Lou Karas, West Liberty University
Temple Lovelace, Duquesne University
Ani Martinez, Remake Learning
Pat McMahon, Carlow University
Randy Nichols, Slippery Rock University
Mary Ann Rafoth, Robert Morris University
Bart Rocco, Elizabeth Forward School District
Laura Roop, University of Pittsburgh/Western Pennsylvania Writing Project
Eric Sennett, Point Park University
Colleen Smith, Penn State New Kensington/ABC CREATE
Holly Smith, ABC CREATE
Nathan Taylor, Robert Morris University
Shaun Tomaszewski, Northgate School District
Stephen Whitehead, California University of Pennsylvania

Remake Learning Policy Working Group

Megan Cicconi, Fox Chapel Area School District
Cara Ciminillo, Trying Together
Briana Mihok, University of Pittsburgh
Tom Ralston, Avonworth School District
Mary Esther Van Shura, formerly of Allegheny County

Appendix B

PDE-430

Category I: Planning and Preparation – Student teacher/candidate demonstrates thorough knowledge of content and pedagogical skills in planning and preparation. Student teacher makes plans and sets goals based on the content to be taught/learned, knowledge of assigned students, and the instructional context. Alignment: 354.33. (1)*(i)*(A), (B), (C), (G), (H)

Student teacher/candidate's performance appropriately demonstrates:

1. Knowledge of content
2. Knowledge of pedagogy
3. Knowledge of Pennsylvania's k-12 academic standards
4. Knowledge of students and how to use this knowledge to impart instruction
5. Use of resources, materials, or technology available through the school or district
6. Instructional goals that show a recognizable sequence with adaptations for individual student needs
7. Assessments of student learning aligned to the instructional goals and adapted as required for student needs
8. Use of educational psychological principles/theories in the construction of lesson plans and setting instructional goals

Category II: Classroom Environment – Student teacher/candidate establishes and maintains a purposeful and equitable environment for learning, in which students feel safe, valued, and respected, by instituting routines and setting clear expectations for student behavior. Alignment: 354.33. (1)*(i)*(E), (B)

Student teacher/candidate's performance appropriately demonstrates:

1. Expectations for student achievement with value placed on the quality of student work
2. Attention to equitable learning opportunities for students
3. Appropriate interactions between teacher and students and among students
4. Effective classroom routines and procedures resulting in little or no loss of instructional time
5. Clear standards of conduct and effective management of student behavior
6. Appropriate attention given to safety in the classroom to the extent that it is under the control of the student teacher
7. Ability to establish and maintain rapport with students

Category III: Instructional Delivery – **Student teacher/candidate, through knowledge of content, pedagogy, and skill in delivering instruction, engages students in learning by using a variety of instructional strategies. Alignment: 354.33. (1)**(*i*)**(D), (F), (G)**

Student teacher/candidate's performance appropriately demonstrates:

1. Use of knowledge of content and pedagogical theory through his/her instructional delivery
2. Instructional goals reflecting Pennsylvania k-12 academic standards
3. Communication of procedures and clear explanations of content
4. Use of instructional goals that show a recognizable sequence, clear student expectations, and adaptations for individual student needs
5. Use of questioning and discussion strategies that encourage many students to participate
6. Engagement of students in learning and adequate pacing of instruction
7. Feedback to students on their learning
8. Use of informal and formal assessments to meet learning goals and to monitor student learning
9. Flexibility and responsiveness in meeting the learning needs of students
10. Integration of disciplines within the educational curriculum

Category IV: Professionalism – **Student teacher/candidate demonstrates qualities that characterize a professional person in aspects that occur in and beyond the classroom/building. Alignment: 354.33. (1)**(*i*)**(I) , (J)**

Student teacher/candidate's performance appropriately demonstrates:

1. Knowledge of school and district procedures and regulations related to attendance, punctuality, and the like
2. Knowledge of school or district requirements for maintaining accurate records and communicating with families
3. Knowledge of school and/or district events
4. Knowledge of district or college's professional growth and development opportunities
5. Integrity and ethical behavior, professional conduct as stated in Pennsylvania Code of Professional Practice and Conduct for Educators; and local, state, and federal laws and regulations
6. Effective communication, both oral and written, with students, colleagues, paraprofessionals, related service personnel, and administrators
7. Ability to cultivate professional relationships with school colleagues
8. Knowledge of Commonwealth requirements for continuing professional development and licensure

About the Authors

Ryan Saunders is a Policy Advisor on the Educator Quality and Policy teams at the Learning Policy Institute. Previously, he worked at the Council of Chief State School Officers, where he supported the Network for Transforming Educator Preparation and a range of educator workforce initiatives. Additionally, prior to joining CCSSO, he taught high school history and literature in the Dominican Republic, Denver, CO, and Turkey.

Tara Kini is Director of State Policy at the Learning Policy Institute. She has co-authored several LPI reports, including *Does Teaching Experience Increase Teacher Effectiveness? A Review of the Research* and *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators*. Previously, she was a senior staff attorney with Public Advocates, where she represented community-based organizations and low-income students and parents in education impact litigation. Tara taught English and history for 6 years in California public schools.

Linda Darling-Hammond is the Charles E. Ducommun Professor of Education Emeritus at Stanford University and President of the Learning Policy Institute. She has conducted extensive research on issues of educator supply, demand, and quality. Among her award-winning publications in this area are *What Matters Most: Teaching for America's Future*; *Teaching as the Learning Profession*; *Powerful Teacher Education*; and *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*.

Maria E. Hyler is Deputy Director of the Learning Policy Institute's Washington, DC, office and a Senior Researcher on LPI's Educator Quality and Deeper Learning teams. She is a co-author of *The Teacher Residency: An Innovative Model for Preparing Teachers* and is co-lead of a forthcoming study on teacher preparation for deeper learning. Her work focuses on structures and systems that support student success, best practices for preparing teachers to teach students of diverse backgrounds, and preparing equity-centered educators.

Endnotes

[1] The Organization for Economic Cooperation and Development. (2011). *Lessons from PISA for the United States, Strong Performers and Successful Reformers in Education*. Washington, DC: OECD Publishing.

[2] Brown, A. (2016, October 6). Key findings about the American workforce and the changing job market. Pew Research Center. http://www.pewresearch.org/fact-tank/2016/10/06/key-findings-about-the-american-workforce-and-the-changing-job-market/ (accessed 7/11/18).

[3] National Research Council. (2012). *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Washington, DC: The National Academies Press. https://doi.org/1017226/13398; *https://www.uschamber.com/series/your-corner/building-21st-century-workforce*.

[4] Remake Learning. (2018). Retrieved from https://remakelearning.org/.

[5] Learning Policy Institute analysis of Civil Rights Data Collection, 2017, National Center for Education Statistics.

[6] Pennsylvania Department of Education. (2018). *Application Guidelines for Innovative Teacher and Principal Residency Programs*. Harrisburg, PA: Pennsylvania Department of Education.

[7] Carver-Thomas, D. (2018). Diversifying the teaching profession: How to recruit and retain teachers of color. Palo Alto, CA: Learning Policy Institute.

[8] Cross, F. (2017). Teacher Shortage Areas Nationwide Listing 1990─91 through 2017─18. Washington, DC: U.S. Department of Education.

[9] Pennsylvania Department of Education. (2015). *Pennsylvania's State Plan for Ensuring Equitable Access to Excellent Educators for All Students*. Harrisburg, PA; Pennsylvania Department of Education.

[10] Stohr, A., Fontana, J., & Lapp, D. (2018). *Patching the Leaky Pipeline: Recruiting and Retaining Teachers of Color in Pennsylvania*. Philadelphia, PA; Research for Action.

[11] According to the U.S. Department of Education's Teacher Shortage Areas Nationwide Listing 1990─91 through 2017─18, a combination of the following unduplicated FTEs may be used to calculate teaching shortage area FTEs and the percentage of total FTEs: (a) teaching positions that are unfilled; (b) teaching positions that are filled by teachers who are certified by irregular, provisional, temporary, or emergency certification; and (c) teaching positions that are filled by teachers who are certified, but who are teaching in academic subject areas other than their area of preparation.

[12] Pennsylvania Department of Education. (2018). *Application Guidelines for Innovative Teacher and Principal Residency Programs*. Harrisburg, PA; Pennsylvania Department of Education.

[13] LEAs report teachers who are no longer employed in the district; educators who retire, die, resign, or otherwise leave the district are also included in the turnover data.

[14] From Pennsylvania's State Plan for Ensuring Equitable Access to Excellent Educators for All Students (2015): For purposes of determining equity gaps between Pennsylvania's highest and lowest minority school buildings, the percent of students who are not White or Caucasian was calculated for the total school enrollment. The distribution of students by race is not a normal distribution.

[15] The Relay Graduate School of Education, an alternative certification program that provides its own course program, currently operates a teacher residency program in Philadelphia. The program is not currently recognized as an alternative provider in the state's Title II data, nor is it accredited as a residency program.

[16] U.S. Department of Education. (2016). 2015─16 Title II Data Collection, National Teacher Preparation Data. Retrieved from https://title2.ed.gov/Public/Report/StateHighlights/StateHighlights.aspx?p=2_02.

[17] U.S. Department of Education, National Center for Educational Statistics. (2016). *Projections of Education Statistics to 2024*. Washington, DC: U.S. Department of Education.

[18] Feir, R. (2006). *Governor's Commission on Training America's Teachers [PowerPoint slides]*. Pittsburgh, PA: Pennsylvania Education Policy Forum. Retrieved from https://slideplayer.com/slide/4674932/.

[19] The Work Group's recommendations are outlined in the following report: http://www.education.pa.gov/Documents/K-12/ESSA/Stakeholder/10-18-16/AIR%20Report.pdf.

[20] Innovative Teacher and Principal Residency Programs. (2018). Retrieved from http://www.education.pa.gov/Teachers%20-%20Administrators/Teacher%20Quality/Pages/Innovative-Teacher-and-Principal-Residency-Programs-Grant.aspx.

[21] Troops to Teachers. (2018). Retrieved from http://www.education.pa.gov/Teachers%20-%20Administrators/Teacher%20Quality/Pages/Pennsylvania-Troops-to-Teachers-Grant.aspx.

[22] Louisiana Department of Education. (2017). *2016─17 Guide to Educator Workforce Data*. Baton Rouge, LA; Louisiana Department of Education. https://www.louisianabelieves.com/docs/default-source/principal-support/2016-2017-educator-workforce-report-discussion-guide.pdf?sfvrsn=4https://www.nctq.org/dmsView/17-000835_nctq_supply_and_demand_v10_02-26-18 (accessed 7/5/18).

[23] Pennsylvania Department of Education, Personal Communication, February 2, 2018.

[24] Pennsylvania Department of Education (n.d.). *The Framework for K-12 Program Guidelines*. Harrisburg, PA; Pennsylvania Department of Education.

[25] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 14. Harrisburg, PA; Author.

[26] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 17. Harrisburg, PA; Author.

[27] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 14. Harrisburg, PA; Author.

[28] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 14. Harrisburg, PA; Author.

[29] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 16. Harrisburg, PA; Author.

[30] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 8. Harrisburg, PA; Author.

[31] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 15. Harrisburg, PA; Author.

[32] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 16–17. Harrisburg, PA; Author.

[33] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 10. Harrisburg, PA; Author.

[34] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 7. Harrisburg, PA; Author.

[35] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 17. Harrisburg, PA; Author.

[36] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 6. Harrisburg, PA; Author.

[37] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 14. Harrisburg, PA; Author.

[38] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 17. Harrisburg, PA; Author.

[39] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 15. Harrisburg, PA; Author.

[40] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 14. Harrisburg, PA; Author.

[41] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 8. Harrisburg, PA; Author.

[42] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 7. Harrisburg, PA; Author.

[43] Pennsylvania Department of Education. (n.d.). *The Framework for K-12 Program Guidelines*. Pg. 16. Harrisburg, PA; Author.

[44] Pennsylvania Department of Education (2012). *Field Experience and Student Teaching Competencies*. Harrisburg, PA; Pennsylvania Department of Education.

[45] Pennsylvania Department of Education (Feb. 2012). *Field Experience and Student Teaching Competencies*. Harrisburg, PA; Pennsylvania Department of Education.

[46] Andrew, M.D. (1990). Differences between graduates of 4-year and 5-year teacher preparation programs. *Journal of Teacher Education*, 41(2), 5─11.

[47] Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record,* 103(6), 1013─1055. See also Darling-Hammond, L., & Hammerness, K., with Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs, in Darling-Hammond & Bransford (Eds.), *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*.

[48] Pennsylvania Department of Education (n.d.). *Pennsylvania Statewide Evaluation Form for Student Professional Knowledge and Practice*. Harrisburg, PA; Pennsylvania Department of Education. http://www.education.pa.gov/Documents/Teachers-Administrators/Certifications/Fees%20and%20Forms/PDE%20430.pdf (accessed 3/5/18).

[49] LaBoskey, V.K., & Richert, A.E. (2002). Identifying good student teaching placements: A programmatic perspective. *Teacher Education Quarterly*, 29(2), 7─34; Orland-Barak, L. (2002). The impact of the assessment of practice teaching on beginning teaching: Learning to ask different questions. *Teacher Education Quarterly*, 29(2), 99─122; Andrew, M.D. (1990). Differences between graduates of 4-year and 5-year teacher preparation programs. *Journal of Teacher Education*, 41(2), 5─11.

[50] In 2014—15, just 252 of the state's nearly 7,000 completers completed teacher preparation through an alternative route program; U.S. Department of Education. (2016). 2015—16 Title II Data Collection, National Teacher Preparation Data. Retrieved from https://title2.ed.gov/Public/Report/StateHighlights/StateHighlights.aspx?p=2_02.

[51] 24 Pa. Cons. Stat. §1207.1.

[52] U.S. Department of Education. (2016). Title II Reports, National Teacher Preparation Data. Retrieved from https://title2.ed.gov/Public/Report/StateHighlights/StateHighlights.aspx?p=2_02.

[53] U.S. Department of Education. (2016). Title II Reports, National Teacher Preparation Data. Retrieved from https://title2.ed.gov/Public/Report/Providers/Providers.aspx?p=4_07&i=2002.

[54] 24 Pa. Cons. Stat. §1207.1.

[55] Guha, R., Hyler, M.E., & Darling-Hammond, L. (2016). *The Teacher Residency: An Innovative Model for Preparing Teachers*. Palo Alto, CA: Learning Policy Institute.

[56] The following providers are at some stage of edTPA implementation: Alvernia University, Delaware Valley College, Duquesne University, Gannon University, Indiana University of Pennsylvania, Mansfield University, Mercyhurst College, Millersville University of Pennsylvania, Penn State University, Relay Graduate School Education, Saint Joseph's University, Seton Hill University, University of Pennsylvania–GSE, University of Pittsburgh, University of Pittsburgh Johnstown Campus, University of Scranton.

[57] Pennsylvania Department of Education (2017). *Professional Educator Program Approval Major Review Handbook*. Harrisburg, PA: Pennsylvania Department of Education. http://www.education.pa.gov/Documents/Teachers-Administrators/Certification%20Preparation%20Programs/Institutional%20Program%20Approval/Professional%20Educator%20Program%20Approval%20Major%20Review%20Handbook.pdf (accessed 11/9/17).

[58] Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators*. Palo Alto, CA: Learning Policy Institute.

[59] Ingersoll, R., Merrill, L., & May, H. (2014). What are the effects of teacher education and preparation on beginning teacher attrition? Research Report (#RR-82). Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania.

[60] Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Palo Alto, CA: Learning Policy Institute; Redding, C., & Smith, T. (2016). Easy in, Easy out: Are Alternatively Certified Teachers Turning Over at Increased Rates? *American Educational Research Journal;* Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S.* Palo Alto, CA: Learning Policy Institute; Darling-Hammond, L., Holtzman, D., Gatlin, S., & Vasquez Heilig, J. (2005). Does Teacher Preparation Matter? Evidence about Teacher Certification, Teach for America, and Teacher Effectiveness. *Education Policy Analysis Archives 13*, 42.

[61] Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How Teacher Turnover Harms Student Achievement. *American Educational Research Journal* 50 (1), 4–36.

[62] Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators*. Palo Alto, CA: Learning Policy Institute.

[63] Pennsylvania Department of Education. (2018). *Application Guidelines for Innovative Teacher and Principal Residency Programs*. Harrisburg, PA: Pennsylvania Department of Education; Carver-Thomas, D. (2018). *Diversifying the teaching profession: How to recruit and retain teachers of color*. Palo Alto, CA: Learning Policy Institute.

[64] Carver-Thomas, D. (2018). *Diversifying the teaching profession: How to recruit and retain teachers of color*. Palo Alto, CA: Learning Policy Institute.

[65] Scott-Clayton, J., & Li, J. (2016). *Black-White disparity in student loan debt more than triples after graduation.* Washington, DC: Brookings Institution; Scott-Clayton, J. (2018). *The looming student loan default crisis is worse than we thought.* Washington, DC: Brookings Institution.

[66] Podolsky, A., & Kini, T. (2016). *How Effective Are Loan Forgiveness and Service Scholarships for Recruiting Teachers?* (policy brief). Palo Alto, CA: Learning Policy Institute. https://learningpolicyinstitute.org/product/how-effective-are-loan-forgiveness-and-service-scholarships-recruiting-teachers.

[67] Carver-Thomas, D. (2017). *Diversifying the Field: Barriers to Recruiting and Retaining Teachers of Color and How to Overcome Them.* San Antonio, TX: IDRA-EAC South.

[68] Pa. Code 22 § 354.32.

[69] Darling-Hammond, L. (2010). *Evaluating Teacher Effectiveness: How Teacher Performance Assessments Can Measure and Improve Teaching.* Washington, DC: Center for American Progress; Carver-Thomas, D. (2018). *Diversifying the teaching profession: How to recruit and retain teachers of color.* Palo Alto, CA: Learning Policy Institute.

[70] Pennsylvania Department of Education. (2018). Pennsylvania's consolidated state plan under the Every Student Succeeds Act (ESSA). Harrisburg, PA: Pennsylvania Department of Education, 67–76. http://www.education.pa.gov/Documents/K-12/ESSA/Resources/PA%20ESSA%20Consolidated%20State%20Plan%20Final.pdf.

[71] Carver-Thomas, D. (2018). Diversifying the teaching profession: How to recruit and retain teachers of color. Palo Alto, CA: Learning Policy Institute; Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators.* Palo Alto, CA: Learning Policy Institute.

[72] The Heinz Fellows Program. (2018). Retrieved from http://www.cue.pitt.edu/heinz.

[73] American Institutes for Research. (2016). The Every Student Succeeds Act in Pennsylvania: Recommendations from Stakeholder Work Groups and Associated Research. Washington, DC: American Institutes for Research. http://www.education.pa.gov/Documents/K-12/ESSA/Stakeholder/10-18-16/AIR%20Report.pdf (accessed 3/14/18).

[74] Darling-Hammond, L. (1994). *Professional Development Schools: Schools for Developing a Profession.* New York, NY: Teachers College Press.

[75] Darling-Hammond, L. (2014). Strengthening Clinical Preparation: The Holy Grail of Teacher Education. *Peabody Journal of Education*, 89(4), 547–561, DOI: 10.1080/0161956X.2014.939009.

[76] Edelfelt, R., & Coble, C. (2004). University-School Teacher Education Partnerships in North Carolina. *Journal of In-service Education*, 30(3), 443–462. Retrieved at http://www.tandfonline.com/doi/pdf/10.1080/13674580400200250.

[77] Maryland State Department of Education. (2004). Professional Development Schools in Maryland. Baltimore, MD: Maryland State Department of Education. http://marylandpublicschools.org/about/Documents/DEE/ProgramApproval/PDS/PDSinMDReport.pdf (accessed 3/18/18); Professional Development Schools, Maryland State Department of Education. (2018). Retrieved at http://marylandpublicschools.org/about/Pages/DEE/Program-Approval/Professional-Development-Schools.aspx.

[78] Tennessee Department of Education. (2017). Preparation through Partnership: Strengthening Tennessee's New Teacher Pipeline. Nashville, TN: Tennessee Department of Education. https://www.tn.gov/content/dam/tn/education/reports/Preparation_through_Partnership_report_final_web.pdf (accessed 4/2018).

[79] Georgia Department of Education. (2017). Georgia's P-20 Collaboratives. Atlanta, GA: Georgia Department of Education. https://coe.uga.edu/assets/downloads/for-fyi/P20-Infographic-7202017.pdf (accessed 6/10/18).

[80] Feir, R. (2006). *Governor's Commission on Training America's Teachers [PowerPoint slides].* Pittsburgh, PA: Pennsylvania Education Policy Forum. Retrieved from https://slideplayer.com/slide/4674932/.

[81] Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, 103(6), 1013–1055. See also Darling-Hammond, L., & Hammerness, K., with Grossman, P., Rust, F., & Shulman, L. (2005), The design of teacher education programs, in Darling-Hammond & Bransford (Eds.), *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do.*

[82] Louisiana Department of Education. (2017). Louisiana's Elementary and Secondary Education Plan Pursuant to the Federal Every Student Succeeds Act (ESSA). Baton Rouge, LA: Louisiana Department of Education, 26, 72.

[83] Cooperating Teacher Payment Program / Part A Training. (2018). Retrieved at http://www.epsb.ky.gov/mod/page/view.php?id=14.

[84] Bozack, A., Freilicher, T., & Salvaggio, A.N. (2013). *Teacher education and mentoring program evaluation report.* http://www.cea.org/issues/news/2013/mar/04/pdf/TEAM-Report-2-15-13.pdf (accessed 12/12/17).

[85] Guha, R., Hyler, M.E., & Darling-Hammond, L. (2016). *The Teacher Residency: An Innovative Model for Preparing Teachers*. Palo Alto, CA: Learning Policy Institute.

[86] Silva, T., McKie, A., & Gleason, P. (2015). *New Findings on the Retention of Novice Teachers from Teaching Residency Programs.* Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. https://ies.ed.gov/ncee/pubs/20154015/pdf/20154015.pdf.

[87] Guha, R., Hyler, M.E., & Darling-Hammond, L. (2016). *The Teacher Residency: An Innovative Model for Preparing Teachers*. Palo Alto, CA: Learning Policy Institute.

[88] Pennsylvania Department of Education (n.d.). The Framework Residency Certificate: Specific Program Guidelines. Harrisburg, PA; Pennsylvania Department of Education. http://www.education.pa.gov/Documents/Teachers-Administrators/Certification%20Preparation%20Programs/Framework%20Guidelines%20and%20Rubrics/The%20Framework%20Residency%20Certificate%20Specific%20Program%20Guidelines.pdf (accessed 2/15/18).

[89] Commission on Teacher Credentialing. (2016). *California Teaching Performance Expectations*. Sacramento, CA; Commission on Teacher Credentialing. https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/adopted-tpes-2016.pdf?sfvrsn=8cb2c410_0 (accessed 3/10/18).

[90] Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching.* Washington, DC: Center for American Progress. See also Goldhaber, D., Cowan, J., & Theobald, R. (2016). *Evaluating prospective teachers: Testing the predictive validity of the edTPA.* (CALDER Working Paper No. 157) Washington, DC: National Center for Analysis of Longitudinal Data in Education Research.

[91] edTPA Minnesota. (2014). Retrieved from http://edtpaminnesota.org/about/.

[92] Connecticut State Board of Education. (2017). Connecticut edTPA Guidance for P-12 Administrators and Leaders. Hartford, CT: Connecticut State Board of Education. https://portal.ct.gov/-/media/SDE/Digest/2017-18/CT_edTPA_Implementation.pdf (accessed 3/10/18).

[93] edTPA Policies, State of Washington Professional Educator Standards Board (2018). Retrieved at https://www.pesb.wa.gov/preparation-programs/assessments/performance-assessments-edtpa/edtpa-policies/.

[94] State edTPA Policy Overview. (2018). Retrieved at https://secure.aacte.org/apps/rl/res_get.php?fid=1014&ref=edtpa.

[95] Teaching Performance Assessment, Commission on Teacher Credentialing. (2018). Retrieved at https://www.ctc.ca.gov/educator-prep/tpa.

[96] Pennsylvania Department of Education (n.d.). *Pennsylvania Statewide Evaluation Form for Student Professional Knowledge and Practice*. Harrisburg, PA; Pennsylvania Department of Education. http://www.education.pa.gov/Documents/Teachers-Administrators/Certifications/Fees%20and%20Forms/PDE%20430.pdf (accessed 3/5/18).

[97] Meuwissen, K., Choppin, J., Shang-Butler, H., & Cloonan, K. (2015). Teaching Candidates' Perceptions of and Experiences with Early Implementation of the edTPA Licensure Examination in New York and Washington States. Rochester, NY: Warner School of Education, University of Rochester. https://www.warner.rochester.edu/files/research/files/edTPAreport.pdf (accessed 4/10/18); Robinson, S., & La-Celle Peterson, M. (2014). Engaging in Successful Change: edTPA in New York State. Washington, DC: American Association of Colleges of Teacher Education. https://learningfirst.org/blog/engaging-successful-change-edtpa-new-york-state (accessed 2/14/18).

[98] Darling-Hammond, L. (2010). *Evaluating Teacher Effectiveness: How teacher performance assessments can measure and improve teaching.* Washington, DC: Center for American Progress. See also Goldhaber, D., Cowan, J., & Theobald, R. (2016). *Evaluating prospective teachers: Testing the predictive validity of the edTPA*. (CALDER Working Paper No. 157). Washington, DC: National Center for Analysis of Longitudinal Data in Education Research.

[99] Teacher Preparation Analytics. (2016). *Accountability in Teacher Preparation: Policies and Data in the 50 States and DC*. Washington, DC: Council of Chief State School Officers, p. 16; Teacher Indicators, State of Washington Professional Educator Standards Board. (2018). Retrieved at https://www.pesb.wa.gov/preparation-programs/program-application-review/program-review/teacher-indicators/.

[100] This section draws upon Darling-Hammond, Oakes, et al., (in press). *Teacher preparation for deeper learning*. Cambridge, MA: Harvard Education Press.

[101] Credential Program Completer Surveys, Commission on Teacher Credentialing. (2017). Retrieved at https://www.ctc.ca.gov/educator-prep/completer-surveys.