The Pennsylvania Teacher Policy Landscape (2007-2018)

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This overview of the Pennsylvania teacher policy landscape covers the period from 2007-2018, and is necessarily situated in the national context of teacher policy (see <u>The National Context for Science Teacher Education and Retention in the United States, 2007-2018: An Introduction to the Set of State Cases</u>). This paper will address four areas of state educational policy that concern teachers specifically.

The first section provides an overview of teacher certification in Pennsylvania, focusing on the requirements for the two stages of licensure, as well as state policy with regard to teacher tenure. The second section examines how teacher recruitment in Pennsylvania has been shaped by the state's 2006 State Equity Plan, specifically efforts to recruit teachers of color through residency and grow-your-own programs in the state's largest school districts. Third, we examine Pennsylvania's Act 82 of 2012 and its impact on the teacher quality landscape in the state, including its influence on the way in which Pennsylvania structures and maintains teacher-level data. Finally, in light of the larger science teacher retention project of which this report is a part, we take a brief look at the handful of state policies and programs that impact teachers of science.

A succinct description of the overall educational landscape is provided in Pennsylvania's report for the Every Student Succeeds Act, submitted in 2019:

The commonwealth's K-12 education system serves more than 1.7 million students. Pennsylvania's 500 school districts range in size from approximately 200 students to more than 140,000 students. In addition to traditional public schools, more than 160 brick-and-mortar charter schools and 14 cyber charter schools are responsible for educating 135,000 students. Pennsylvania's 29 Intermediate Units (IUs) provide special education, professional development, and technical assistance services to school districts, charter schools, and private schools. Career and technical education programs are provided at 136 high schools and 84 career and technical centers, offering over 1,720 approved programs of study to more than 66,000 students. (PDE, 2019a, pp.1-2).

Teacher Licensure in Pennsylvania

The Pennsylvania Department of Education has established extensive licensure and continued professional development requirements, receiving recognition for some of the most stringent certification requirements in the nation (PDE, 2019a). Since the passage of Act 48 in 1999, Pennsylvania has had two stages of certification, Level I and Level II.

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¹ The terms *licensure* and *certification* are used somewhat interchangeably in this document, but certification typically refers to specific subject areas or grade levels on the teaching license for which the individual is certified to teach.

Initial Teacher Preparation and Level I certification

In order to earn Level I certification, also referred to as *provisional certification*, teacher candidates may take one of two pathways. The first option is to complete the requirements for a university-based teacher preparation program at the bachelors or post-bachelors/Master's level. The second option is to enter the state's Intern Program, also known as Alternative Route, in which candidates meeting entry requirements are issued a *teacher intern certification*. This professional certificate entitles the holder to fill a full-time professional teaching position for up to three years while they complete a certification program from a state-approved Intern/Alternative Program provider. Once earned, Level I certification is valid for up to six years of service, and is non-renewable. Teachers may not continue teaching in the state if their Level I certification lapses.

Traditional Pathway

To achieve certification via the traditional route, Pennsylvania requires students to identify the content they want to teach as well as the University program that offers a bachelor degree in the particular subject area/specialization. Teacher candidates with an existing bachelor's degree in a content area may enroll in a post-baccalaureate or masters-level teacher certification program. Currently, there are over 100 colleges and universities offering teacher education certification programs in the state of Pennsylvania.

All teacher candidates are required to pass a basic skills assessment as well as the appropriate Praxis exam(s) for their content or area of specialization prior to applying for their teacher certification. Programs vary across institutions, but all prospective teachers in the traditional pathway must complete a minimum of 12 weeks of supervised student teaching.

Alternative Route/Intern Program Pathway

In Pennsylvania, the alternative route program, also referred to as the Intern Program, can be completed at 33 universities and colleges as well as through alternate providers in the state. In order to gain acceptance into an intern program, all prospective teachers must hold a bachelor's degree with a minimum GPA requirement of 3.0 in their future subject area and pass all necessary certification exams prior to acceptance. Once accepted, teacher candidates must complete coursework similar to that of the traditional programs.

Rather than complete a 12-week field experience, Alternative Route candidates expected to obtain either a full-time teaching position or long-term substitute teaching position after applying for an intern certificate from the Department of Education (PDE, 2012). During an intern's first year, they must be observed at least one time per month by an approved evaluator (22 Pa. Code 49.91(c)). The intern certificate program focuses on six components for developing highly effective teachers: clear standards, fair assessments, curriculum framework, instruction, materials and resources, and intervention. Intern certificate holders have up to three years to complete their necessary coursework in order to receive a teaching license. While holding an intern certification, the holder becomes a teacher on record (22 Pa. Code § 49.1). Pennsylvania's Intermediate Units (UI's), also serve as providers of additional certifications for a limited selection of endorsements.

Pennsylvania was the first state in the nation to adopt the American Board for Certification of Teacher Excellence (ABCTE) route to education in 2002, specifically as a response to shortages of mathematics and science teachers (PDE, 2020). This alternative route pathway is used by a number of teacher education providers to offer fully online teacher education programs in the certification areas of secondary mathematics, secondary general sciences, secondary physics, secondary chemistry, secondary biology, secondary English, or the Grades PK-4 certification. A teacher holding the *Passport to Teaching* credential issued by American Board for Certification of Teacher Excellence (ABCTE) program, may be issued a *Temporary Teaching Permit* (TTP) that is only valid for a single calendar year. Teacher candidates who enroll and complete the requirements for this program are eligible for a Pennsylvania Level I Certificate after one year.

Level II Certification

In order to apply for Level II certification, teachers must complete at least three years of satisfactory service as determined through the process of teacher evaluation, a mandatory induction program, and a minimum of 24 post-baccalaureate credits. The state policy concerning each of these requirements: teacher evaluation, mentoring & induction, and continuing professional education is discussed in greater detail below.

Teacher Evaluation

Prior to 2012, districts were strongly encouraged to evaluate teachers using one of three forms corresponding to the level of their certification, though districts were permitted to use older state-approved instrument or approved evaluation tools developed locally by the district. The three forms, introduced in 2004, were used by building administrators to evaluate teachers who were either Level I (Form 426), teachers who were applying for Level II certification (Form 427), or as a final evaluation tool for teachers who have already received their Level II certification (Form 428). Each of these forms was based upon the Framework for Teaching (Danielson, 1996), and focused evaluation on four areas: planning and preparation, classroom environment, instructional delivery, and professionalism.

In conjunction with their adoption of the common core standards and national push for increased teacher accountability, Pennsylvania applied for Race to the Top (RTTT) funding, beginning in 2010. In the same year, Pennsylvania was awarded an \$800,000 Momentum Grant by the Bill and Melinda Gates foundation to establish a student achievement-based evaluation system. In the third and final phase of Race to the Top in 2011, Pennsylvania was awarded \$41 million. Funding from both grants was used to overhaul teacher and administrator evaluation systems (USDOE, 2012). While the new evaluative tools continued to be aligned with the Danielson model, new legislation was required for the incorporation of student achievement data in teacher performance rating. This led Pennsylvania to pass Act 82 in 2012, effective in the 2013-2014 school year, linking student performance to the teacher evaluation process, with 50 percent of teacher evaluations based on student achievement. The breakdown of student scores used for evaluation is dependent on the content of the teacher but consists of a combination of building Level data as well as scores on the Pennsylvania System of School Assessment (PSSA) and Keystone exams. Alongside formal observations and according to amendments made to

Pennsylvania Public School Code 49, the Pennsylvania Department of Education encourages but does not mandate the use of cycles of supervision for all tenured teachers.²

Under Act 82, teachers are ranked into four possible categories based on teacher formal evaluations and student performance: distinguished, proficient, needs improvement, or failing. While summative ratings of distinguished and proficient are always considered satisfactory, a teacher who is ranked as needing improvement two times within 10 years under the same employer is considered unsatisfactory. However, any teacher who is ranked as failing is automatically considered unsatisfactory. Charter schools are exempt from using this evaluation system (PDE, 2014).

Mentoring and Induction Policy

Since 1987, the state of Pennsylvania has mandated induction, currently requiring a minimum of 2 years of in-service support for any teacher seeking permanent certification. As noted above, in order to move from Level I to Level II certification, teachers must complete a state approved induction program. Induction is also provided for long-term substitutes, educational specialists, and in some cases teachers who are new to the school but not to the profession (22 Pa. Code §49, 2020).³

According to the Education Induction Plan of the PDE, each school is expected to develop an induction committee, responsible for the development and annual monitoring of an adequate induction program that aligns with the Danielson Framework (PDE, 2019b). Each induction committee is responsible for electing an induction coordinator whose responsibilities include but are not limited to selecting and providing training to mentor teachers. Although mentor selection criteria have not been mandated, the state recommends the consideration of matching mentors to mentees in regards to their certification and schedule compatibility. The PDE also suggests mentor teachers exemplify "outstanding work performance" as well as "model continuous learning and reflection" (PDE, 2019b, p. 6). Additional criteria include knowledge of inquiry and differentiation in lesson design and their leadership and job embedded skills within the school building. LEA's are required to provide activities and highly qualified mentors that support new teacher learning. 4 However, as of 2016, Pennsylvania does not offer state funds to support induction, including compensation to a highly qualified mentor and other induction related activities (New Teacher Center, 2016). Private schools are not required to provide induction to their new teachers, however, all teachers in the state are required to received state mandated induction to obtain their Level II certificate.

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² Administrators may work with teachers to develop a cycle of supervision that includes a model of differentiated supervision that works for the individual teacher. Through this process, the DOE recognizes the limitations present in the formal evaluation model, when all weight is placed on formal observations. Within this cycle, typically lasting 3 to 4 years and dependent on the local educational agency, teachers are able to present evidence outside of the formal observation that may contribute to a distinguished rating through an alternative model. LEAs are able to develop their own versions of differentiated supervision without approval by the state; however the state does provide examples of potential models that include the use of either peer coaching, action research, or professional portfolios (PDE, 2014). Cycles of supervision must also include at least one year where teachers receive a formal observation as well as two informal observations. Teachers may only participate in a differentiated supervision plan if they have been rated distinguished or proficient for two consecutive years.

³ Induction is required for permanent (Level II) certification. Out of state induction does not count towards certification.

Continuing Professional Education

Teachers in Pennsylvania are expected to continue their professional growth during their career as an educator, this includes teachers holding Level II certifications. Act 48 required all teachers to complete their Continuing Professional Education requirements every five years or their Level II certification will become inactive. These Continuing Professional Education requirements may be met through either six collegiate credits, six professional education courses, or 180 hours of professional development. For Level I teachers, credits fulfilled within the five-year time period and which fulfill requirements related to Level II certification, may be applied to both (PDE, 2016).

Tenure Law in Pennsylvania

Tenure in the state of Pennsylvania confers teachers with increased protection from termination, and was first established in Pennsylvania under Act 52 in 1937. In 1939, the law was amended to establish a two-year probationary period, labeling untenured teachers as "temporary professional employees" not subject to the same job protections as tenured teachers. This two-year probationary status remained until 1996, when the period was extended to three years.

All teachers working in public schools, which includes school districts, intermediate units, and technical/vocational schools, can obtain tenure if they have served three years in temporary status in which they have been rated satisfactory in the last four months of their third year, while maintaining all requirements for certification (PSEA, 2018).⁵ Currently, Level II certification is not required for a teacher to attain tenure. However, if teacher's Level I certification lapses without being converted to a Level II certificate, the individual may no longer be employed as a teacher, regardless of tenure status.

Teacher Data in Pennsylvania

Pennsylvania developed the Pennsylvania Value Added Assessment System (PVAAS) to track student growth beginning in 2005. By 2010, Pennsylvania's state level data systems already unique identifiers for both teachers and students, allowing the achievement of individual students to be correlated with individual teachers (PDE, 2010).

With federal Race to the Top funding in 2011, Pennsylvania improved its existing state level data system, Pennsylvania Information Management System (PIMS). This statewide longitudinal data system has been used in collaboration with local education agencies and the state department of education to collect and analyze individual demographic and achievement data for each student in the public school system. Multiple school types are required to submit student data, including: School Districts, Intermediate Units, Career and Technology Centers, Charter Schools, Private Residential Rehabilitation Institutions, and Approved Private Schools. Through PIMS, Pennsylvania has been able to meet the necessary reporting requirements of both the state and federal governments. This system continues to collect a wide range of information about students (PDE, 2019c)

In 2012, Pennsylvania launched the Teacher Information Management System (TIMS), an online tool developed to assist teachers in their applications for certification. TIMS maintains

⁵ Charter school teachers are not eligible for tenure in the state of PA.

certification data for public and charter schools, and is also used for the application of emergency permits (PDE, 2015).⁶ As a consequence of the Race to the Top funding, Pennsylvania updated the Pennsylvania Information Management System directly to the PVAAS in order to report teacher-specific student growth data for the State's educator effectiveness system" (USDOE, 2014).

State Equity Plans and Teacher Recruitment

Equity Plans

Pennsylvania's first state equity in education plan was announced in 2006 in response to the federal No Child Left Behind legislation, and was aligned with the goal of ensuring that every student had access to highly qualified teachers (PDE, 2006). The major focus of this plan included increasing the number of highly qualified teachers in core academic classes across the state's school districts.

A decade later, the state's response to the United States Department Equitable Access to Excellent Educators Initiative (2014) made it clear that the equity plan had not had the desired impact: "When the minority makeup of the student body is taken into account to analyze teacher turnover, the turnover rate for all of Pennsylvania's 697 highest minority school district buildings is about 1.4 times higher than it is for Pennsylvania's 682 lowest minority school buildings" (PDE, 2015). When excluding the Philadelphia School District, salaries of teachers with more than one-year teaching experience in schools serving the poorest students in the state were earning an average of nearly \$10,000 less than their counterparts. This finding led the Pennsylvania's plan developers to postulate that this difference in salary may correlate to issues of recruiting and retaining high quality teachers in low-income schools. Additionally, in the 2011-2012 school year, Pennsylvania had the largest spending gap between their poorest and wealthiest schools in the nation, citing "school districts with the highest poverty rates receive one-third fewer state and local tax dollars, per pupil, than the wealthiest districts" (PDE, 2015, p. 50). These findings all made use of the new and improved state data system, PIMS, as described above.

By 2015, these findings, along with changes in federal policy and the requirements laid out by the United States Department of Education, led to Pennsylvania's State Plan for Ensuring Equitable Access to Excellent Educators for All Students. This plan stated four key areas of improvement: "human capital management; ongoing professional learning; teacher and principal preparation; and fiscal equity," and was structured around equity gaps, root causes, and suggested activities (PDE, 2015, p. 7). The nine equity gaps laid out in the plan included: a reduced pool of teacher and principal candidates, low achievement in science and keystone exams by students in the states low incomes schools, a lack of "high-quality" professional development opportunities, teacher preparation programs lacking to prepare teachers to work in poor and minority school placements, fiscal inequity with a focus on funds for student resources, and inadequate data collection to monitor, with specific data concerns regarding teacher turnover, school safety, and school climate (PDE, 2015). Activities to improve equity gaps including but were not limited to increased marketing for recruitment, creating new pipelines to teaching with a focus on schools with the highest needs, as well as increased functionality of the

⁶ Charter schools use TIMS to provide subject area mastery data for uncertified teachers of academic core courses.

TIMS to better connect certified teachers with LEAs (PDE, 2015). This plan however did not mention the disproportionate number of teachers of color to students of color in the state.

Current statistics show Pennsylvania's student population is composed of 33.1% students of color, while the teaching population only consists of 5.6% teachers of color (Fontana & Lapp, 2018, p. 2). Fontana and Lapp (2018) point out the ratio is even lower in Pennsylvania's secondary schools, and this proportion is one of the most disparate in the country. Data also shows that the number of African American college students pursuing teaching as a career has declined by 60% since 1996, with a total of only 29 African American and 20 Latino males graduating with degrees in education in 2014 (PDE, 2019a).

In 2017, outcomes of the equity plan were assessed by its stakeholders (PDE, 2017). Noted progress included the development of a grant, funded through the ESEA Title II funds, aimed at developing future administrators, and targeted the recruitment of leaders in high needs schools. In 2017, the state provided increased professional development as well as curriculum development opportunities in science to their "Focus and Priority schools", schools the state has identified as struggling under the ESSA. Additionally, the National Science Foundation funded Pennsylvania, along with 13 other states, to develop resources that aided the effort to close equity gaps in science.

Equity in Philadelphia

Philadelphia is the largest school district in the state, with nearly 120,000 students in the district operated system and another 80,000 students in charter and cyber charter schools. The district operated schools employ more teachers of color than any other district in the state, though the proportion of teachers of color has decreased in recent years, from 34% in 2000 to 24% in 2018. It is unclear what the exact reasons were that led to this decline in African American teachers, though this time overlaps with the passing of Act 46. which enabled the state takeover of the Philadelphia school district. The takeover was reportedly a result of teacher shortages and low student academic performance; however some claim the state's actions came after years of an inequitable statewide education funding formula.

Not only did Act 46 severely limit the bargaining capabilities of the Philadelphia teacher's union, it also gave the School Reform Commission the power to hire for-profit education management firms to run certain schools within the district and convert public schools into charter schools, first with the label "Transitional" charter and later referred to as "Restructured Schools". These schools were expected to have entirely new faculty and staff, and the teachers currently teaching in them were given the option to either transfer or leave the district, to which the majority decided to leave (Travers, 2003). This plan was promoted as an effort to improve student test scores by diversifying the school providers within the district, and in alignment with the goals of the No Child Left Behind Act of 2001. In 2014, Pennsylvania passed Act 51, which established the creation of The Basic Education Funding Commission to examine the state's funding formula.

⁷ Act 46 in 1998 allowed the state to take over financially "distressed" school districts, of which Philadelphia was the only district to qualify (Pennsylvania Public School Code, 1998).

⁸ In February 2021 Governor Wolf proposed legislation to create a more equitable education funding formula https://www.governor.pa.gov/newsroom/gov-wolfs-education-plan-makes-historic-1-3-billion-investment-in-public-schools/

Recruiting Teachers of Color

Other programs supported by the 2015 equity plan were focused particularly on efforts intended to recruit teachers who would increase the diversity of the Pennsylvania teacher workforce. The plan discussed examining possible alternate pathways such as "grow-your-own" programs in order to improve the diversity of teacher candidates (PDE, 2019a). Many of these were begun during the time period covered by this paper, even if they did not come to fruition until after 2018.

Aspiring to Educate

Aspiring to Educate (A2E), Pennsylvania's "Grown-your-own" program (Gist, Bianco, and Lynn, 2018), aimed at recruiting a diverse pool of students, targeting diverse high school students who may want to pursue a career in education. This program also targets adult candidates who may have credits towards a degree in education as well as individuals who have graduated with a bachelor's degree in a field outside of education (PDE, 2019d).

Teacher Residency Programs

In 2018, Drexel University partnered with the Philadelphia School District to develop and initiate the Philadelphia Teacher Residency Program in an effort to address both the shortages of teachers in STEM content areas as well as increase the racial and ethnic diversity of the population of teachers in Philadelphia. This residency model program provides teacher candidates with an accelerated certification program, with the possibility of grant funded financial support as well as additional courses to achieve a master's degree (Drexel University, 2020) Most recently, Pennsylvania has been elected as the sixth state to partner with the Woodrow Wilson (WW) Teaching Fellowship, preparing its first cohort of highly qualified STEM teacher candidates in 2018, which is described in greater detail below.

The Center for Black Educator Development

In 2018, Sharif El-Mekki founded The Center for Black Educator Development to deliberately increase the number of Black male educators in the greater Philadelphia area. This organization was developed out of a 2014 initiative of El-Mekki's called the Fellowship-Black Male Educators for Social Justice, and is modeled on the freedom schools movement. Specifically, the program targets individuals who are seeking a career change to become a teacher through a paid apprenticeship with one of their partner schools.⁹

Teacher Recruitment and Retention

In 2005, Governor Ed Rendell commissioned a group consisting of higher education faculty, p-12 teachers and administrators, as well as union and community members, and several state legislators and PDE representatives to work together on a plan for teacher preparation. This group, called the Training America's Teachers Commission, identified four areas of improvement: "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" (Feir, 2006).

⁹ Partnering schools include Freedom Schools and Liberation Academy, both charter school networks. https://www.thecenterblacked.org/teaching-pathways

Though the state ultimately established a loan forgiveness programs for medical professionals working in underserved communities, ultimately no state loan forgiveness program for teachers was created, though a number of programs at the federal level continue to be available for Pennsylvania teachers.

From 2007-2018, Pennsylvania experienced a steady decline in those pursuing education as a career pathway. Specifically, between the 2008-2009 and 2015-2016 school years, there was a 65% reduction in those enrolling in teacher preparation programs, leading to teacher shortages in the classroom (Saunders, Kini, Darling-Hammond, & Hyler (2018a). Although candidates through alternate route programs have increased, studies have shown teacher retention is lower amongst this group, even more so in low-income settings (Saunders et al, 2018a). In 2019, the Pennsylvania Department of Education's annual report recognized 33 public school districts and 26 charter schools experiencing significant teacher shortages (PDE, 2019a). Data from PIMS was used to identify an average turnover rate of 6.2% in Pennsylvania, however districts serving the highest number of students with free and reduced lunch saw an attrition rate closer to 8%, while charter schools serving a similar demographic had an attrition rate near 21% (Saunders, Kini, Darling-Hammond, & Hyler, 2018b).

These shortages have disproportionately affected schools serving students of color, and have led to an increase in the issuance of emergency certifications to fill long term substitute positions. One 2019 report identified a number of shortage areas, including science in grades 7-12. The state has also seen a corresponding attrition of school leaders (PDE, 2019a).

State policies and programs that impact teachers of science.

In 2017, Governor Wolf announced his Middle-Class Task Force composed of leaders from business, labor, and post-secondary education, which identified critical areas. One such area included the lack of coordination between the economic and educator sectors. In response, the Governor supported the PAsmart initiative, awarding \$30 million in grants to improve education for all students in the state, particularly in the areas of science, technology, engineering, computer science, and math. Specifically, PAsmart allotted grants, totaling \$20 million to LEA's, to improve computer science offerings for students as well as the development of partnerships between students at any level (elementary, secondary, and post-secondary) and computer science experiences. Grants provided by PAsmart have also targeted the expansion of elementary, secondary, and post-secondary computer science and STEM educators, with a focus on diversifying the teaching force (PAsmart, 2018).

In 2018, Pennsylvania established the Woodrow Wilson Pennsylvania Teaching Fellows program in partnership with the Woodrow Wilson National Fellowship Foundation, with the goal of preparing high quality STEM teachers for high-need schools across the state. Twenty-one percent of the 2020 cohort are teachers of color and 54% are male (WW, 2020). This most recent cohort, comprised of twenty-eight individuals, will participate in programs either in West Chester University, Duquesne University, or the University of Pennsylvania Graduate School of Education, and will complete a full year teacher residency, receive a \$32,000 stipend alongside a master's degree, and continued support for their first three years as a teacher of record in one of Pennsylvania's high need districts.

Pennsylvania's 2019 ESSA plan included efforts to develop teacher education programs using a residency model, such as the Woodrow Wilson program, recognizing the positive impact of residency style programs on teacher recruitment as well as retention (PDE, 2019a). The plan emphasized critical teacher shortages in the subject areas of math and science. Specifically, the plan cited evidence from a pilot program funded by Title II, that prepared STEM teacher candidates for teaching through a residency model, with participants claiming better preparedness over their traditional student teacher counterparts (PDE, 2019a). Following this report, Governor Wolf awarded 2.1 million dollars towards residency programs at 11 universities, 7 of which were focused on residencies for teachers. Although programs may have included avenues for new STEM teachers, the grant was not explicitly focused on increasing math and science teachers.

Conclusion

Pennsylvania continues to be recognized nationally for its stringent requirements for teacher certifications, while at the same time providing opportunities for alternative pathways to teacher licensure. These strict requirements include the two-tiered certification system necessary to become a teacher in the state as well as the requirement of continued professional development throughout a teacher's career. Currently there is no state-level funding allocated specifically for mentoring or induction of new teachers, though each school entity is required to have an induction program for its teachers.

The state's data systems, PIMS and TIMS, make it possible to connect student, teacher, and school level data. For teachers, such data is used primarily for purposes of educator accountability and student achievement

Despite making recent strides in the recruitment of black and brown teachers, over the past two decades Pennsylvania's teacher population has diverged demographically from that of its students. A small number of teacher preparation programs have been established to address the shortage of teachers of color as well as the shortage of STEM teachers. Pennsylvania continues to center equity goals with respect to its students, employees, and schools.

References

Darling-Hammond, L. (2009). Educational Opportunity and Alternative Certification: New Evidence and New Questions (Issue March).

Drexel University (2020). Drexel University School of Education: Philadelphia Residency Program. Retrieved online at https://drexel.edu/soe/academics/certifications/teacher-certification/teacher-residency-program/

Education Commission of the States (2020). 50 state comparison. Retrieved from https://reports.ecs.org/comparisons/eacher-employment-contract-policies-01

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/.

Fontana, J., & Lapp, D. (2018). New Data on Teacher Diversity in Pennsylvania (Issue September). https://8rri53pm0cs22jk3vvqna1ub-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/RFA-New-Data-on-Teacher-Diversity-PACER-FINAL.pdf

New Teacher Center (2016) State Policy Review: New Educator Induction Pennsylvania.

PAsmart (2018) PAsmart Grants: Framework Principles and Funding Priorities. Retrieved online at: https://www.governor.pa.gov/wp-content/uploads/2018/11/20181102-PAsmart-Framework.pdf

Pennsylvania Department of Education (2006) A Revised Plan to Reach the No Child Left Behind Act Highly Qualified Teacher Goal in 2006-2007 and Beyond. Retrieved online at: https://www2.ed.gov/programs/teacherqual/hqtplans/pa.pdf

Pennsylvania Department of Education (2010) Race To the Top Application for Phase 2 Funding. Retrieved online at: https://www2.ed.gov/programs/racetothetop/phase2-applications/pennsylvania.pdf

Pennsylvania Department of Education (2012) The Framework for a Teacher Intern Certification Program: Specific Program Guidelines. Retrieved online at:

https://www.education.pa.gov/Documents/Teachers-

<u>Administrators/Certification%20Preparation%20Programs/Framework%20Guidelines%20and%</u>20Rubrics/Teacher%20Intern%20Certification%20Program%20Specific%20Program%20Guidelines.pdf

Pennsylvania Department of Education (2014) Educator Effectiveness Administrative Manual. Retrieved online at: https://www.education.pa.gov/Documents/Teachers-Administrators/Educator%20Effectiveness%20Administrative%20M anual.pdf

Pennsylvania Department of Education (2015) Pennsylvania's State Plan for Ensuring Equitable Access to Excellent Educators for All Students. Retrieved online at:

https://www.education.pa.gov/Documents/K-

 $\frac{12/Equitable\%\,20Access\%\,20to\%\,20Excellent\%\,20Educators/Pennsylvania\%\,20Educator\%\,20Equit\,y\%\,20State\%\,20Plan.pdf}$

Pennsylvania Department of Education (2016) Frequently Asked Questions – Act 48: Continuing Professional Education Requirements. Retrieved online at:

https://www.education.pa.gov/Documents/Teachers-Administrators/Act%2048-

 $\underline{PERMS/FAQ\%20Act\%2048\%20Continuing\%20Professional\%20Education\%20Requirements.p} \\ \underline{df}$

Pennsylvania Department of Education (2017) Stakeholder Status Report: Implementation of Pennsylvania's Equitable Access to Excellent Educators State Plan. Retrieved online at: https://www.education.pa.gov/Documents/K-

 $\frac{12/Equitable\%\,20Access\%\,20to\%\,20Excellent\%\,20Educators/Progress\%\,20Report\%\,20December\%\,202016.pdf$

Pennsylvania Department of Education (2019a) Every Student Succeeds Act: Pennsylvania Consolidated State Plan. Retrieved online at:

https://www2.ed.gov/admins/lead/account/stateplan17/paconsolidatedstateplanfinal.pdf

Pennsylvania Department of Education (2019b) Educator Induction Plan Guidelines. Retrieved online at: https://www.education.pa.gov/Documents/Teachers-Administrators/Act%2048-PERMS/Educator%20Induction%20Plan%20Guidelines.pdf

Pennsylvania Department of Education (2019c) Pennsylvania Information Management System User Manual. Vol. 1. Retrieved online at: https://www.education.pa.gov/Documents/Teachers-Administrators/PIMS/PIMS%20Manuals/2019-2020%20PIMS%20Manuals/20Vol.pdf

Pennsylvania Department of Education (2019d) Aspiring to Educate Program (A2E). Retrieved online at: https://www.pccy.org/wp-content/uploads/2019/11/A2ESynopsis.pdf

Pennsylvania Department of Education (2020) The American Board. Retrieved online at: https://www.education.pa.gov/Educators/Certification/BecomeAnEducator/Pages/AmericanBoard.aspx

Pennsylvania Public School Code of 1949, 580 P.L. § 2517 (1966).

Pennsylvania Public School Code of 1949, 270 P.L. (1998). https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=1998&sessInd=0&act=46

PSEA (2018) You and Your Certificate. Retrieved online at: https://www.psea.org/globalassets/for-members/your-profession/files/youandyourcertificate.pdf

Reitano, A. (2019). Issue Brief: Anchor Goal 3 Demographic Characteristics of Teachers in the School District of Philadelphia, 2018-19. July, 4–7.

Saunders, R., Kini, T., & Darling-Hammond, L. (2018a). Examining Educator Certification in Pennsylvania: Research and Recommendations for Chapter 49 This report was prepared for the Pennsylvania Department of Education.

Saunders, R., Kini, T., Darling-Hammond, L., & Hyler, M. E. (2018b). Preparing Pennsylvania Teachers to Remake Learning A Review of State Policies. This report was prepared for the Pennsylvania Department of Education.

Travers, E. (2003). Philadelphia School Reform: Historical Roots and Reflections on the 2002-2003 School Year under State Takeover. Penn GSE Perspectives on Urban Education, 2(2), 1–7.

USDOE (2012) Race to the Top: Pennsylvania Report. Retrieved online at: https://www2.ed.gov/programs/racetothetop/phase3-applications/pennsylvania-2.pdf

USDOE (2014) Race to the Top: Pennsylvania Report. Retrieved online at: https://www2.ed.gov/programs/racetothetop/performance/pennsylvania-year-2.pdf

WW (2020) Fact Sheet: The 2020 Woodrow Wilson Pennsylvania Teaching Fellows. Found online at: https://woodrow.org/wp-content/uploads/2020/07/2020-PA-TF-Fact-Sheet-FNL.pdf