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This overview of the New Jersey teacher policy landscape covers the period from 2007-2018, and is necessarily situated in the national context of teacher policy (see The National Context for Science Teacher Education and Retention in the United States, 2007-2018: An Introduction to the Set of State Cases), as well as the recent historical context within New Jersey itself. The modern history of teacher policy in New Jersey began in 1875, with an amendment to the state constitution that read, “The Legislature shall provide for the maintenance and support of a thorough and efficient system of free public schools for the instruction of all children in the state between the ages of five and eighteen years.” (New Jersey State Constitution, 1875). Over the next century and a half, the phrase “thorough and efficient” would serve as the legal cudgel for racial integration in the schools, gender equity in educational outcomes, school finance reform that led to the creation of a state income tax in 1971, and a series of lawsuits (Abbott v. Burke) concerning educational equity that are now well into their fourth decade of litigation (Education Law Center, 2020).

The first section provides an overview of teacher certification in New Jersey, focusing on the two pathways for certification, the stages of licensure, and the specific requirements for preparation, mentoring, and induction. The second section examines how the state’s 2009 Teacher Equity Plan and ongoing school finance litigation have shaped teacher recruitment in New Jersey. Third, we examine New Jersey’s TEACHNJ Act of 2012 and its impact on the teacher quality landscape in the state, including its influence on the way in which New Jersey 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 specifically targeted at teachers of science.

Teacher Certification

Overview of teacher certification pathways in New Jersey

New Jersey has a highly unionized and professional teaching force, and the state Department of Education has maintained rigorous standards for teacher certification, even prior to the Highly Qualified Teacher provisions in the 2002 No Child Left Behind

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(NCLB) legislation. At the high school level, all teachers are required to have at least a bachelor’s degree and the equivalent of a major or minor in the content area they plan to teach. In New Jersey, there are two pathways to teacher certification, both rooted in New Jersey’s teacher education reforms of the early 1980s (Natriello, 2017), both of which require a provisional period of teaching before a standard certificate is issued. These two pathways are primarily differentiated by whether one is learning to teach in either a program with a field-based internship, or alternately, as a teacher of record with paid employment in a school. Both require the passing of a professional knowledge and subject matter test of knowledge.

The first pathway is labeled by the state as the “traditional route,” entails enrollment in a university teacher education program and the completion of a full time supervised field experience in a classroom lasting at least one semester. Though the fieldwork hour requirement has changed in recent years, the general shape of the pathway has remained consistent, with graduates of certification programs receiving a “Certificate of Eligibility with Advanced Standing” (CEAS) that allows them to obtain a teaching position. These programs include undergraduate Bachelor degree programs with teacher certification, Masters degree programs, and so-called post-baccalaureate programs that offer certification without an additional degree.

The second pathway, labeled “alternate route” by the state, allows for an individual with the appropriate degree to obtain a “certificate of eligibility” (CE) for employment while they enroll in and complete a teacher education program. Most of these alternate route programs are delivered through the community college system, though some are run through 4-year institutions and private providers as well. Approximately one third of all NJ teachers become certified through an alternate route program (NJDOE, 2009).

Each pathway also has specific mentoring requirements for the first year of teaching. As a result of the TEACH NJ legislation of 2012 (see below), provisional teachers must obtain two effective or highly effective final ratings—one per year—within three consecutive years of teaching in order to conclude their provisional teacher program and earn a standard teaching certificate.

Changing Teacher Licensure Policy in New Jersey
Since the 1980s, New Jersey has had three stages of teacher licensure requirements: certificate of eligibility, provisional, and standard. Teacher candidates earn either a certification of eligibility (CE) if enrolled in an alternate route program, or a certification of advanced standing (CEAS) upon completion of a traditional teacher preparation program. Both permit for the recipient to be hired as a teacher of record in a classroom, at which point the Local Education Authority (LEA) enrolls the new teacher in the Provisional Teacher Process (PTP, discussed below) and the teacher receives a Provisional teaching certificate that is valid for two years and may be renewed if the PTP has not yet been completed. Upon successful completion of the Provisional Teacher Process, teachers are issued a Standard Certificate that does not require renewal.
Prior to 2015, requirements for initial teacher licensure in New Jersey were already some of the strictest in the nation. Teacher candidates were required to have (in most cases) a 2.75 GPA and pass tests of professional knowledge, including the PRAXIS subject area tests. A number of concurrent factors ultimately led to a set of policy reforms in 2015 that impacted both the structure and reporting of programs in New Jersey. The first was the NJ Teacher Equity Plan, discussed in greater detail below. Second, following the Race to the Top grant program in 2009, there were further discussions at both the federal and state level relating to teacher preparation program accountability. Finally, there was an effort from university teacher education programs to raise standards for teacher certification as a response to charter school organizations who were seeking to prepare teachers specifically for charter schools (A legislative effort to create a new category of teacher certificate that would have allowed teachers to only teach in charter schools was unsuccessful.)

Consequently, new requirements were adopted in order to participate in a CE or CEAS program between 2014 and 2017. For teacher candidates in CEAS programs, these reforms included increasing fieldwork time requirements prior to the final semester. Other major changes to the CE and CEAS program requirements included the adoption of a proficiency test in Math and Language Arts (with some exceptions for those scoring in the top percentiles on either the SAT, ACT, or GRE), an increase in the minimum GPA score from 2.75 to 3.0, and teacher preparation coursework on teaching students with disabilities.

The new requirements also included the addition of a performance assessment to be completed at the end of the teacher preparation program, whether traditional or alternate route (NJDOE, 2019e; NJDOE 2019f). The state initiated a selection process for this assessment, and ultimately chose the edTPA, a K-12 subject specific performance assessment developed by the Stanford Center for Assessment, Learning, and Equity (SCALE) and administered through Pearson. The edTPA was designed to assess teacher candidates through three major tasks: Planning, Instruction, and Assessment. Scorers for the edTPA are selected based on both their experience with teacher preparation and subject specific expertise, and are required to be trained by SCALE and undergo regular inter-rater reliability checks (edTPA, 2019).

In addition to the edTPA, New Jersey teachers are also required to complete the Praxis subject tests, with secondary science teachers required to take and receive passing scores on both a general science and a science content specific (i.e. biology, chemistry, etc.) exams. Passing scores differ for each of the content specific exams but teachers must receive a score of 152 to pass the general science Praxis exam.

Retention, mentoring, and induction policy
The induction and mentoring of novice teachers has shown to have a generally positive impact on teacher retention (Ingersoll & Strong, 2011), and New Jersey’s requirements for the mentoring of new teachers have been in place for nearly three decades. The
major goals of the state mentoring program are to assist novice teachers during their first years of teaching, improve standard aligned practice in the classroom in hopes of leading to increased student learning, and increase novice teacher retention (NJDOE, 2014a).

As noted above, New Jersey has three stages of licensure. After earning a certificate of eligibility or advanced eligibility, teachers receive a provisional license upon hire in a New Jersey school and are entered into the state Provisional Teacher Program (PTP). During this provisional period, teachers in both alternate route and traditional pathways, are required to receive two years of mentoring by a mentor teacher. Mentors for traditional route teachers are paid $550, while mentors for alternate route teachers are paid $1000. Notably, these funds are deducted directly from the novice teachers’ salary and paid directly to mentors, unless LEAs elect to cover the cost.

LEAs in New Jersey are required to develop a mentoring plan of 30 weeks or more for all new teachers, and certify this plan to the state annually. The state provides mentoring and induction support to districts through a mentoring “toolkit” published on the website of the NJ Department of Education (NJDOE, 2014b). Criteria for mentor selection by the chief school administrator include a teaching certification (preferably in the subject area of the mentee), three years of full-time experience, two of the last five years working in the district, a rating of “effective or highly effective on the most recent summative evaluation,” and mentor training (New Teacher Center, 2016).

**Equity and Teacher Recruitment**

One consequence of the No Child Left Behind legislation of 2002 was that LEAs were required to report annually how many of their teachers met the highly qualified teacher goals set forth in NCLB. The requirement that teachers were expected to obtain certification for the subject areas they were teaching in order to meet highly qualified teacher status placed additional demands on LEAs with existing shortages of teachers in certain subject areas, including science, mathematics, special education, and world languages. At this time, many states including New Jersey had also begun to experience teacher shortages across the country for a variety of other reasons related to the demographic profile of the U.S. teacher workforce (Malone, 2002). Finally, there was a growing recognition among policymakers and stakeholders in the state of the need to diversify the teaching force, so that it better reflected the student population in the state.

**The 2009 Teacher Equity Plan**

In 2009, the state Department of Education produced New Jersey’s [Teacher Equity Plan](#), which included a proposal to invest in teacher recruitment in high-need subject areas—which almost always included secondary science—in order to meet Adequate Yearly Progress (AYP) criteria set forth by NCLB. The first part of this equity plan included using the state level data systems NJSMART and NJ Quality Single Accountability System (NJQSAC) to ensure that LEAs were abiding by requirements
pertaining to the indicators that would need to be reported to the federal government. NJQSAC specifically addressed district compliance with the provisions of the highly qualified teacher requirements as well as licensure, mentoring, and professional development. Those LEAs that did not meet the prescribed level were subjected to various levels of intervention, including technical assistance.

The second part of the equity plan focused on teacher preparation programs as a way to achieve the goals laid out in the NCLB legislation. This included requiring New Jersey Educator Preparation Programs to be nationally accredited by either The National Council of Accreditation for Teacher Education (NCATE) or the Teacher Education Accreditation Council (TEAC). This rule applied not only to traditional teacher education programs but to alternate route programs as well.

A third component of the equity plan was the use of statewide data to identify teachers who were teaching outside of their certification areas and force schools to either remove them from their placements or become substitute teachers, exacerbating the problem of teacher shortages. Therefore, the final element of this plan was specifically focused on the recruitment and retention of teachers, especially those in hard to staff subjects and areas.

**Teacher Recruitment Efforts**
From 2007 to the present, several grants were made available by the state in efforts to recruit and diversify the pool of novice teachers. Troops to Teachers, funded by the Department of Defense in partnership with specific high-need schools, was developed to funnel veterans into the field of education (NJDOE, 2019d). Funding was also provided through New Jersey Education Association (NJEA) to increase the pool of teacher candidates through programs such as The Urban Teaching Academy, found at several of New Jersey’s colleges and universities, and The Center for Future Educators (CFE), a program established in 2010, targeting middle and high school students. This program was designed with particular interest in recruiting for hard-to-staff schools and high shortage subject areas such as math and science. One such program, RADIATE, working in partnership with The College of New Jersey (TCNJ), was established to target young men of color from local high schools (Center for Future Educators, 2019). The Diversifying the Teacher Pipeline grant, fully funded by the state and awarded to both Montclair State University and Rutgers University, was designed “to develop and scale programs that recruit, prepare, support and place a diverse pool of teacher candidates that better reflect the diversity of New Jersey’s student population” (NJDOE, 2019c).

**The Impact of Equity Litigation on Teacher Hiring**
The Abbott v. Burke school equity court case has been litigated in the state courts, debated in the state legislature, and has been provoking the executive branch to action for nearly forty years (Education Law Center, 2011). The case is somewhat unique in the school finance world because the NJ Supreme Court continues to hold the state accountable for finding equitable school funding solutions over the duration of the case
(Baker, 2019). One might argue that the court remedies have never been fully implemented, but there is no doubt that genuine changes in school funding in the state have resulted from the case and have led to substantive changes in the operation of schools.

One of these remedies included the use of so-called “adequacy” formulas (Odden & Picus, 2000; National Research Council, 1999) to structure the funding allocated to schools. From an adequacy perspective, the funding of full-time teacher positions is based on student population and characteristics—such as the number of students in poverty, or number of English language learners—and best practices within schools such as maintaining limits on class size.

Ultimately, it is difficult to characterize the specific impact of school finance litigation on the overall supply of teachers, even as it remains a context factor for considering the labor pool of teachers. On the one hand, one outcome for LEAs being funded by an adequacy formula was a demand for more teachers in high need schools. As a consequence, in areas such as secondary science or mathematics, existing shortage areas in science were magnified, and the number of alternate route certified teachers continued to increase over time. On the other hand, this did not prevent periodic cuts in funding resulting in schools that serve the least affluent students reaping the majority of staff shortages, as well as increases in student-to-teacher ratios and teacher workloads (Education Law Center, 2014).

The TEACHNJ Act of 2012

One aspect of New Jersey’s entry in the Race to the Top competition to receive federal funding was to create modernized data systems that could be used to link the performance of students to that of their teachers. Measures of student progress had been in place since the early 1970s and changed over time, but in the early 2000s, there was no statewide effort to collect data on teacher quality. This changed with legislation titled the Teacher Effectiveness and Accountability for the Children of New Jersey (TEACHNJ) Act, signed into law in 2012, and enacted in the 2013-14 school year (New Jersey Statutes Annotated § 18A:6-117, et seq.).

Teacher Quality and the TEACHNJ Act

TEACHNJ had a number of components that made a clear impact on teacher retention—a key aim of the law was in fact to influence the retention of high-quality teachers. These components included a new teacher evaluation system, changes to teacher tenure, and the creation of school improvement panels.

The AchieveNJ teacher evaluation system aimed to evaluate teachers based on “student outcomes, including measures of observed teaching, objective measures of student growth (New Jersey Statutes Annotated § 18A:6-118), and a median student growth percentile (mGSP) score in the case of teachers of students in grades tested by state assessments in literacy and mathematics as a comparative measure of student
achievement. Objective measures of student growth were framed in TEACHNJ as student growth outcomes (SGOs), and intended to be developed collaboratively between teachers and supervisors and align with the same SMART criteria used for state level-data (“specific, measurable, ambitious/achievable, relevant and time-related”). Each district/LEA was permitted to adopt its own approved evaluation system, for example, Danielson’s (2007) Framework for Teaching or Marzano’s (2007) Focused Teacher Evaluation Model, or develop its own system (e.g. Newark’s Framework for Effective Teaching) and submit it for state approval. Under this new teacher evaluation system, teachers received a summative rating at the end of each year, based on a combination of observation scores, SGO measures, and mSGPs where applicable. Four ratings were used in this system: highly effective, effective, partially effective, and ineffective.

The TEACHNJ legislation drew upon this new four-tiered designation of teacher quality to amend New Jersey’s long-standing tenure practices. Prior to 2012, teachers in New Jersey earned tenure, which in NJ is primarily a more rigorous set of due process rights, after three years. The new law altered the prior tenure law by linking teacher and administrator tenure decisions to effectiveness. Under the new law, to be eligible for tenure teachers needed to complete four full academic years, and successfully complete their district’s mentoring program during their first two years. In addition, teachers would only receive tenure if they received summative ratings of “effective or highly effective in two annual summative evaluations within the first three years of employment after the initial year of employment in which the teacher completes the district mentorship program.” LEAs were also compelled under TEACHNJ to file charges of inefficiency (i.e revoking tenure) for any teacher receiving an ineffective rating for two years in a row (New Jersey Statutes Annotated §18A:28-5).

Another addition under the new act was the development of school improvement panels, or ScIPs (New Jersey Statutes Annotated § 18A:6-120). The role of the ScIP in each LEA was three-fold. First, the ScIP would be responsible for ascertaining the needs of both the faculty and students in the school in order to identify professional development opportunities. Second, the ScIP would be involved in the mentoring of teachers, though the language in TEACHNJ is vague on whether this refers to novice teachers only. Third, this panel was tasked to “conduct a mid-year evaluation of any employee in the position of teacher who is evaluated as ineffective or partially effective in his most recent annual summative evaluation” (New Jersey Statutes Annotated §18A:6-120). At this writing, no research has been published on the operation or effectiveness on these school improvement panels, nor has there been any reporting from the state on the work of their panels.

**Teacher data in New Jersey**

In response to NCLB in 2002 and the nationwide push to use student outcomes as a primary indicator of teacher quality, NJ applied for and was awarded federal funding from two Statewide Longitudinal Data System (SLDS) grants, one from The Education Sciences Reform Act of 2002 and the other from the 2009 Race to the Top grant.
program. The funds from both grants were used to create and develop the NJ’s longitudinal data system, NJ SMART (Specific, Measurable, Ambitious/Achievable, Relevant, Time-related) in the state in order to better track student, teacher, school, and district data. Further, the development of the NJ SMART system allowed the state to better respond to federal data reporting requirements, be more service-oriented and transparent to Local Education Authorities (LEAs), as well as “become more evidence-based where progress toward instructional goals are measured, and where the effectiveness and efficiency of educational programs are monitored,” (NJDOE, 2019b)

The first data submission to NJ SMART occurred in 2006, and over the next 7 years the system was expanded into full functionality. During this period, data that was previously maintained separately began to be linked relationally within the new system. This included enrollment and achievement data about students, each of whom is issued a unique student ID (SID). School and district level data, including performance reports, are also maintained within the system. In 2012, the NJ Department of Education began issuing school personnel a unique staff member ID (SMID), which were used to track both employment data, such as certification, and demographic information.

As of this writing, a separate data system is used for data related to Education Preparation Providers, which includes program and employment information about graduates of both traditional and alternate route teacher education programs. Between 2008 and 2016, in response to public discussions at the federal at state level about further developing accountability mechanisms for effectiveness in higher education, the New Jersey Department of Education began collecting data on the graduation and employment of those prepared in teacher education programs in the state. The first annual Education Preparation Provider (EPP) performance reports were issued in 2014. It is notable that each university program is listed separately in these reports, while all of the alternate route graduates are listed in aggregate. State aid and taxation data for individual LEAs is also maintained in a database outside of the NJ SMART system.

Certain data, such as school performance reports, demographic profiles of the state and individual LEAs, and school funding data are made accessible to the public on the NJDOE website. Other data, such as school staffing lists, are made available through open records requests by interested members of the public. For example, The Asbury Park Press maintains a Data Universe portal that uses this data to report on the salaries of teachers and other public employees. It is notable that beginning in 2017, the state began to restrict certain data, such as gender, race, ethnicity, and birth year, from these requests due to data privacy concerns. Some data, such as teacher evaluation scores, student test scores, and unique staff member IDs, have never been made public and are only available to district administrators and state officials.

It is worth noting that all of these data systems, including storage, maintenance, and data reporting functions are subcontracted to a vendor in the private sector and are located physically and bureaucratically outside of the state government.
Other Policy Specifically Related to Science Teacher Education

Two specific policies are noted here: the first concerns the state’s movement away from the comprehensive general science certification and towards more discipline-specific licensure, and the second concerns the easing of certain other requirements for science teacher certification.

**Discipline-specific certifications**
New Jersey discontinued the “all-purpose” general science certification in 1992 and moved to offer three different certifications for science teachers; physical science, biological science, and earth science. After the NCLB legislation in 2002, the physics and chemistry were created as more specialized certifications, and the previously available physical science certificate remained as a combined physics/chemistry certification requiring 30 credits in one and 15 in the other.

**Easing Science Teacher Certification Requirements**
In 2009, a pilot program was authorized by the legislature to permit the state commissioner of education to approve teacher certification programs that eased restrictions on requirements for certifications in shortage areas—which included science and mathematics. In 2012, this legislation was passed into law permanently (An act establishing a program in the Department of Education to address the shortage of teachers in mathematics and science and supplementing chapter 27 of Title 18A of the New Jersey Statutes, 2012.). The law had two main components. First, it permitted programs to be “fast-tracked” and run more quickly than typical certification programs. Second, it permitted subject coursework to be counted toward the professional hours requirements, essentially allowing courses to “double-count” for both content and pedagogy. A number of teacher preparation programs took advantage of the opportunities presented by this legislation, including the physics, chemistry, and mathematics certification program run by the New Jersey Center for Teaching and Learning, the five university STEM teacher education programs sponsored by the Woodrow Wilson Fellowship Program, and the Montclair-Newark Urban Teacher Residency program.

**Conclusion**
Although the education landscape in New Jersey has been coupled to federal initiatives such as No Child Left Behind and Race to the Top, the state has aligned more tightly to a model of professionalization of educators rather than models of deregulation as seen in other states across the country (Zeichner, 2003). New Jersey’s Department of Education has made efforts to improve teacher quality and preparation through both federal and state funded initiatives in order to address teacher shortages and educational inequities. Through the development of State Longitudinal Data Systems in response to Race to the Top, New Jersey has and continues to attempt to make data driven decisions regarding student outcomes and teacher evaluations.
References

An act establishing a program in the department of education to address the shortage of teachers in mathematics and science and supplementing chapter 27 of title 18a of the New Jersey statutes, p.L.2012, c.11. (2012).


New Jersey State Constitution. (1875). Retrieved online at:


Additional resources:
https://www.njleg.state.nj.us/2012/Bills/PL12/26_.PDF
https://www.state.nj.us/education/AchieveNJ/
https://www.state.nj.us/education/AchieveNJ/implementation/legalrequirements.pdf
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