

## A Path to Equity: Solving New Mexico's Teacher Turnover Challenges

**When teachers quit, education fails.**

**There's a solution for this problem: Quality preparation.**

High turnover weakens schools, and weak schools can't serve students well. A root cause of high turnover is directly related to how well teachers are prepared before they are hired to teach.<sup>1</sup> Underprepared teachers are the least effective in the classroom and drive high turnover, leaving the profession at up to four times the rate of well-prepared, local teachers from strong state education programs.<sup>2</sup> A revolving door of novice, underprepared teachers robs students of the opportunity to learn from well-prepared, experienced professionals.<sup>3</sup>

Teacher retention—and teacher quality—start with preparation.

Without directly addressing the state's need for a strong teaching force through dramatic shifts in preparation options, meeting Yazzie/Martinez requirements will be impossible. New models of sustainable, affordable teacher residencies can provide New Mexico the teaching workforce its students need.



*Prepared To Teach has prepared this report as part of work conducted under a grant from the Thornburg Foundation to support preparation programs and their district partnerships in designing new, more affordable and sustainable teacher residency models. In the course of the work, interest in better understanding how the project's national work and financial modeling might apply to New Mexico grew, so the project created this report. We hope the ideas prove helpful as the State continues to engage discussions about residencies.*

**60%**

of teachers in New Mexico  
come through alternative  
pathways.

**52%**

of the state's inexperienced  
teachers serve students with  
the highest needs.

**40-50%**

of new teachers in New  
Mexico leave within the  
first 5 years of teaching.

## The Case: Preparation Matters

The science is clear: Teaching requires complex skills that need study and practice.<sup>4</sup> Other nations know this. Formerly poor-performing countries where outcomes now exceed those in the United States have embraced systems of high-quality preparation before individuals become teachers of record.<sup>5</sup> Decades of research show that fully certified teachers make a positive difference for student outcomes. In fact, researchers have found that a teacher's qualifications on entering the classroom were the single most important predictor of achievement within a school's control.<sup>6</sup>



Preparation matters because it takes time to learn how to teach.<sup>7</sup> The science of learning and development shows that the most successful teachers support learning across the unique profiles of each child's development, including their biology, experiences, relationships, and social constructs. They must understand how social, emotional, and academic brain functions work in concert before they can create responsive, nurturing environments that facilitate the neural experiences that help students construct knowledge.<sup>8</sup> When aspiring teachers do not have the opportunity to learn and apply what we know about teaching and learning, their students pay the price of policies that allow underprepared teachers to lead a classroom.<sup>9</sup>

Teacher residencies, where aspiring teachers work for a year teaching with a mentor teacher, provide the opportunities necessary to learn to teach. Residencies benefit education systems in several ways. First, they improve instruction in placement classrooms where co-teaching models inform the residency design.<sup>10</sup> When implemented as a whole-school improvement design, residencies have raised performance and reduced disciplinary referrals across every subset of students.<sup>11</sup> Graduates of residencies are better prepared to teach.<sup>12</sup> Teacher retention also improves, lessening the toll on schools of teacher churn and saving millions in state dollars.<sup>13</sup> Retention has its own benefits, too: an increasingly experienced teacher workforce, which positively impacts achievement, attendance, behavior, and motivation.<sup>14</sup> What's more, mentor teachers have meaningful professional opportunities to support their continued growth and development.<sup>15</sup>

### District-Aligned Residency Benefits

- Improved outcomes and reduced disciplinary referrals in the residency year
- Stronger novice teachers
- Reduced turnover to stabilize schools
- Cost savings from reduced turnover
- A more experienced workforce with stronger outcomes for students

### 3-Year Retention Rates from Research in a Single District

- External fast-track teacher-of-record program: **24%**
- Local grow-your-own fast-track teacher-of-record program: **41%**
- University-based student teaching program: **60%**
- District-aligned, co-designed residency: **80% - 93%**

# The Challenge: Sustainable Funding for Affordable Residencies

## Money Matters for Aspiring Teachers

Why hasn't the field embraced teacher residencies as the norm, given their profoundly positive instructional and fiscal benefits? The answer is simple: Economics.

Program-level economics have seemed insurmountable. Early residency models, designed as grant-funded stand-alone programs with their own administrative and instructional cost centers, had price tags of \$50,000 to \$60,000 per candidate. Though less than the total public funding investment of \$100,000 per candidate that Teach For America enjoyed,<sup>16</sup> scaling such models was seen as infeasible.

The opportunity costs for an unfunded residency are too high for all but the few who are privileged enough to be able to afford to work for a year for free. Aspiring teachers accrue as much debt as other college graduates, but their pay scales compromise their ability to pay their loans, creating economic instability.<sup>17</sup> Extending unpaid student teaching to a full year for most aspiring teachers means either more debt, more wage-earning work on top of full-time teaching and coursework, or inability to complete their programs.

The perverse economic incentives of our policy system that allows individuals who are not fully certified to teach is the root cause of the deterioration of the teacher preparation system. States can change that reality.

Barriers posed by unfunded clinical practice are even higher for aspiring teachers of color, whose family incomes are less than half that of white families.<sup>18</sup> And supporting teachers of color into the profession matters. For example, having teachers who share the race of their students reduces disciplinary infractions,<sup>19</sup> and having a single Black teacher in elementary school predicts that a Black student is 13% more likely to enroll in college.<sup>20</sup>

Awareness of the importance of the diversity of the teacher workforce has been foundational in the development of fast-track teacher-of-record programs. Unfortunately, though, teachers of color leave the profession from these programs *even more quickly* than their white counterparts—draining the system of a promising pool of candidates of color.<sup>21</sup> Fast-track training has also drawn candidates away from university programs, as quick, cheap pathways in the for-profit sector now enroll 68% of those pursuing teacher-of-record certification.<sup>22</sup>

Funded teacher residencies ensure candidates from diverse backgrounds have equitable access to the kind of preparation that will set them up for success and help them stay in their chosen profession. Reducing financial pressures allows them to focus on the critically important work of learning how to teach. Spending a full year alongside an accomplished mentor teacher lets them experience and understand the arc of a school year, a complete curriculum, how a classroom of students develops over nine months, and the full scope of teachers' responsibilities. In a word, funded residencies allow teachers to become prepared.



# **Sustainably Funded Residencies Are Within Reach**

## ***Five Principles for System Redesign***

*Prepared To Teach* has worked nationally, including in New Mexico, for six years researching, innovating, and iterating on ways to design and scale affordable, sustainable teacher residencies. Five principles, embraced and pursued in tandem, help shift preparation ecosystems to high-quality pathways that ensure all students are taught by fully certified, well-prepared teachers.

1. Mutually beneficial partnerships braid resources across the system
2. Redesign of school roles pays residents for instructional supports
3. Access to financial aid and streamlined coursework reduces candidate costs
4. Equalizing pay with fast-track programs incentivizes enrollment
5. Investing in learning networks spreads promising practices

### Partnerships

Central to any transformation of teacher preparation is strong P-20 partnerships. Programs and districts need time and supports to co-design mutually beneficial, high-quality teacher preparation pathways that serve districts' instructional and hiring needs. Partnerships can braid resources between P-12 and higher education, aligning and streamlining work for cost-efficiency while simultaneously deepening the work of residents and teachers in the classroom to improve instruction.

### School-based Instructional Redesign

In residency preparation sites with high concentrations of residents and strong program/school partnerships, instruction improves. These residency sites can reduce adult-to-student ratios and use creative staffing approaches—such as allowing a resident to teach in the classroom alone while the mentor teacher substitutes one day a week, or by integrating tutoring and other academic supports into residents' roles. Districts can then support residents' financial needs by offering pay or stipends for this work.

### Affordability

Promoting financial literacy around financial aid and maximizing access to existing financial aid, work study, and workforce development dollars can help reduce loans and out-of-pocket costs. Focusing on efficient co-design of programs can reduce duplication of course content through meaningful linkages to residency experiences.

### Competitive Salaries with Fast-track Programs

Ensuring residency programs are attractive requires equalizing financial incentives with fast-track teacher-of-record programs.

### Learning Networks

Residency partnerships are new; diffusing innovations will speed adoption and transformation. Partnerships should be supported to learn meaningfully with each other.

# Making the Possible Real

Designing residencies using investments from across the system offers a pathway to sustainability. The remaining analyses in this report offer policy considerations and estimate costs based on specific values for key variables that influence the cost of developing a sustainable system of funded residencies.

## Variables for modeling a fully funded system

### Resident Pay or Stipend Levels

Resident stipends should remove the current perverse policy incentive of offering salary and benefits to those who are not fully credentialed while also honoring those who are fully licensed with higher pay. New Mexico can achieve this policy goal by creating a new, additional licensure tier paid at a lower rate for both teacher-of-record programs and residency programs.

- Cost modeling in this report uses a stipend of \$30,000, assuming a new licensure level for both residents and teacher-of-record pathways.
- Fringe is not calculated here, but assuming 35% adds an additional \$10,500 per resident.

### Numbers of Residents & Speed of Scale

The second major cost driver is the number of residents the system needs and how quickly a state chooses to pursue a transformation. Current turnover rates coupled with projected turnover from teacher-of-record positions can inform the target number of residents the state should plan for.

- The state currently hires roughly 3,300 teachers a year. Universal residencies would reduce that number by 2/3 within a few years because of retention.
- This report models costs that would have prevented the dire fall 2021 vacancies, targeting 1000 residencies. Over time, of course, the state's full hiring needs should be addressed.
- The 4-year timeframe used here stabilizes costs. Faster scale would raise initial investments; slower scale would spread investments over time—but future maintenance costs would be the same.
- Scale assumptions include an immediate Fall 2021 planning year - Year 0 - so that residents begin in Fall of 2022, or Year 1 in the models.

### The Intersection Between Scale and Costs

Because residency-prepared teachers remain in the profession, costs for residencies reduce and stabilize over time since the system achieves a healthier staff attrition pattern. Conservative estimates predict a reduction of 2/3 in vacancies if residencies replaced other preparation pathways. Table 1 models costs for 300 residents in the first year, growing to and stabilizing at 500 residents a year.<sup>i</sup> Because of reduced attrition, by Year 4 the residency-prepared teachers would begin to address other teacher hiring needs in the state because the residencies will have dramatically reduced vacancies across the 1000 original positions.

*Table 1: Size, Scale, and Stipend Needs for the Residency Initiative*

Project Year	School Year	Current Year Vacancies	Residents Prepared	Stipend Funds Needed (\$30k)	Completers Being Hired (90%)
1	2022-23	1000	300	\$9,000,000	n/a
2	2023-24	1000	500	\$15,000,000	270
3	2024-25	730	500	\$15,000,000	450
4	2025-26	280	500	\$15,000,000	450

<sup>i</sup> Well-designed programs might anticipate a 90% completion and hiring rate of their candidates into local schools. Models in this document take the 10% attrition rate into account.



Level of District Investment

Unique to the *Prepared To Teach* approach for developing strong residencies, and built into our cost modeling, is the commitment to braid resources from across every part of the system to create affordable, sustainable pathways that meet state and district needs for a strong, diverse, high-quality educator workforce. In such programs, residents serve meaningful instructional needs, providing important supports that strengthen student learning and outcomes.

Designing roles and compensating residents for meaningful instructional supports in schools can offer cost-neutral and/or strategically aligned ways to pay candidates. For example, residents can offer tutoring, instructional remediation, or enrichment; substitute one day a week; or serve as part-time paraprofessionals.

Braiding resources from schools and districts offers partnerships more ways to offset residents’ costs while they pursue full-time clinical practice. Federal Title I, Title II, and IDEA dollars, along with general operating funds, can provide stipends for residents’ instructional supports. In most places, 30%-40% of a stipend can be funded through existing instructional expenditures over time.

Models here begin with a conservative estimate of 10% of the \$30,000 stipend coming from existing expenditure lines. Each year for the next two years, the local commitment grows by 10%, reaching a maximum of 30% in Year 3 (Table 2).

Over time, districts can also reinvest cost savings into the residency. Teacher turnover has significant costs, estimated to be anywhere from \$9,000 per teacher in rural districts to \$20,000 in urban districts.<sup>23</sup> Additional savings, not yet quantified through research, would accrue from reductions in remediation needs. When students have residents co-teaching in their rooms and when they have strong first-year teachers, their outcomes improve.<sup>24</sup> They receive the targeted, timely instructional supports they need and don’t fall behind. Similarly, inappropriate special education referrals and grade retention—both costly and preventable—would be reduced when teachers are fully prepared before being responsible for a classroom.

Models here begin with a conservative estimate of 10% of the \$30,000 stipend being paid through cost savings starting in year 3 after the first residency graduates are retained in their full-time positions, adding 10% in Year 4 for a total of 20% of the stipend being paid by cost savings (Table 2).

Table 2 : District Contributions to Resident Stipends

Project Year	School Year	Percent of Stipends Covered Locally		
		From Reallocation	From Savings	Total
1	2022-23	10%	0%	10%
2	2023-24	20%	0%	20%
3	2024-25	30%	10%	40%
4	2025-26	30%	20%	50%



## Costing Out the District and State Investments in Stipends

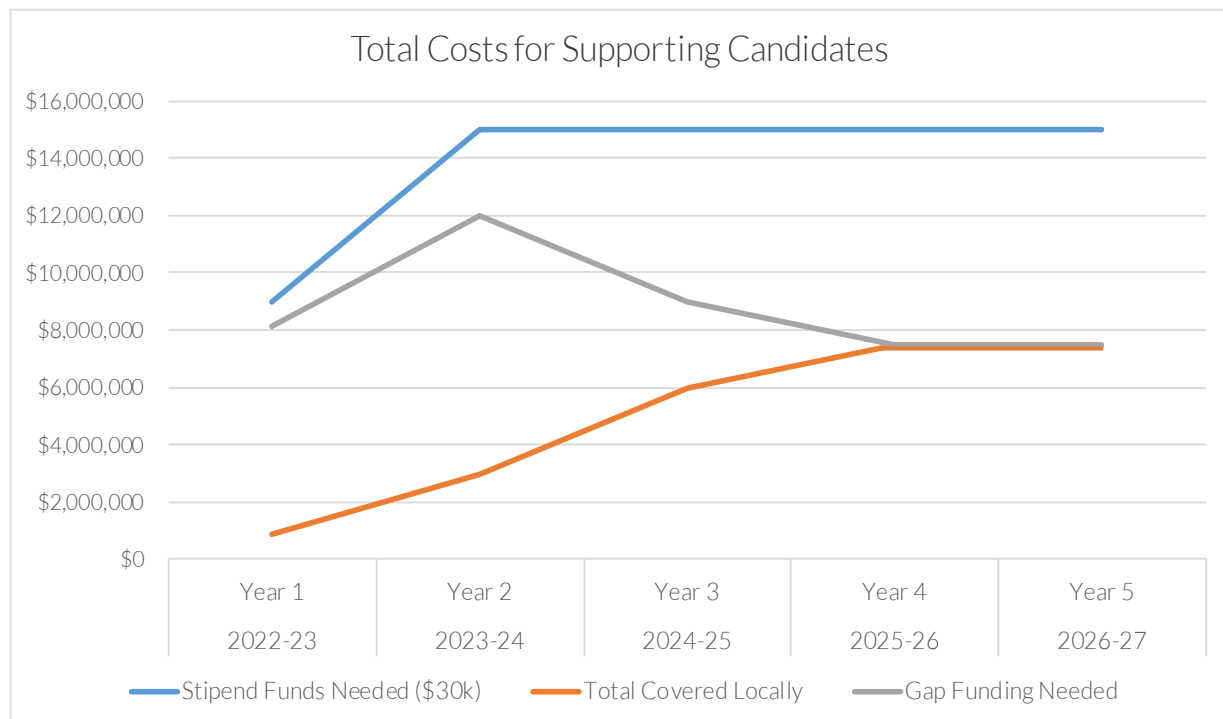
Over the course of four years, as the proportion of the local investment grows, state-level investments per person drop dramatically. Initial costs are modeled here at \$27,000 per resident, with an average of \$20,000 per resident over the first four years and an ultimate cost of \$15,000 per resident when the system is scaled and stabilized.

For a total investment of \$36,600,000, the state would have addressed the current shortage positions and created a sustainably funded stipend system (Table 3). In addition to having addressed the dire shortages in the original 1000 vacancies this modeling uses, the system, once established, would prepare 170 new residency graduates who could begin to address other hiring needs across the state, ultimately reducing turnover even beyond the original 1000 positions (Table 1).

Table 3: Total Costs for Supporting Candidates

Project Year	School Year	Residents Prepared	Stipend Funds Needed (\$30k)	Total Covered Locally	Gap Funding Needed
1	2022-23	300	\$9,000,000	\$900,000	\$8,100,000
2	2023-24	500	\$15,000,000	\$3,000,000	\$12,000,000
3	2024-25	500	\$15,000,000	\$6,000,000	\$9,000,000
4	2025-26	500	\$15,000,000	\$7,500,000	\$7,500,000
TOTALS		1800	\$54,000,000	\$17,400,000	\$36,600,000

Graph 1: Total Costs for Supporting Candidates



## Investing in the Transformation Effort

Transforming current programs into high-quality residencies will require investments in the change process itself. Building high-quality, district-aligned residencies takes time and effort. The kind of resource braiding that will allow a system to become cost-efficient and sustainable needs deep partnerships between districts and preparation programs. Leaders from both sectors will need to dedicate time to learn about possible models, align curriculum, plan for recruitment, address affordability barriers, and prepare schools and mentors for their important roles in residents' learning. Each program licensure area and school or set of schools will need support to engage this work.

*Prepared To Teach* has estimated transformation costs at \$50,000 per residency partnership, assuming each residency partnership serves a cohort of 15-20 residents. For 500 residents a year, the state would need 30 residency partnerships, each consisting of a program and 1-4 local schools working together to develop that program's residents. For this model, in Year 0, 20 partnerships would need to be developed for the first 300 residents in Year 1; an additional 10 would need to be ready for Year 2 (Table 4). Residency partnership sites ideally would be geographically distributed so that all higher education preparation programs are able to engage in focused residency work, ensure Indigenous Nations and Pueblos have access to residency preparation schools and be located in areas with anticipated future enrollments to sustain the residency work. In addition, attention to how residency programs ensure graduates equitably address hiring needs across the state--for example, with contracts requiring service in certain locations--will be an important part of the system's design.

Table 4: Residency Partnership Development Supports

Project Year	School Year	# of Partnerships Developed	Support Funds Needed (\$30k)
0	2021-22	20	\$1,000,000
1	2022-23	10	\$500,000
TOTALS		30	\$1,500,000

*Prepared To Teach* also argues that states can best meet their responsibilities for ensuring students have equitable access to effective educators not simply by funding strong preparation models, but by actively supporting their systemic development through networked learning communities and targeted local strategic supports.<sup>25</sup> Transforming existing systems into residencies is nuanced and complicated work, and partnerships will best be able to navigate their change processes if they are able to learn with and from others who have engaged in residency transformation. Accordingly, supporting a state-level community of practice should be part of the plan. The State would also want to engage in a learning agenda, gathering baseline and ongoing data on designs, impacts, and costs. An investment of \$300,000 for each of three years starting in Year 0 would support the structures, convenings, and technical assistance needed to ensure the investment results in sustainable change in the sector (Table 5).

Table 5: Learning Network and Research Investments

Project Year	School Year	Community of Practice Supports
0	2021-22	\$300,000
1	2022-23	\$300,000
2	2023-24	\$300,000
TOTALS		\$900,000



## An Investment That Pays Off

The modeling here can be adjusted in many ways—lower or higher stipends, larger or smaller scale targets, faster or slower scale assumptions. Any way it's modeled, though, the investment in a systematic, state-wide residency preparation system is worth it. Importantly, residency prepared teachers would not simply be addressing hiring shortages; they would serve as a systemic remedy for the State to address the educational inequities as required by Yazzie/Martinez. Residency-prepared graduates would ensure P-12 students have a teacher who is not learning on the job at their educational expense. Residents' documented strong retention rates would ensure investments in professional development are able to achieve their goal of building a strong teaching force. Retention also would stabilize schools and communities, conferring additional benefits beyond improved classroom instruction.

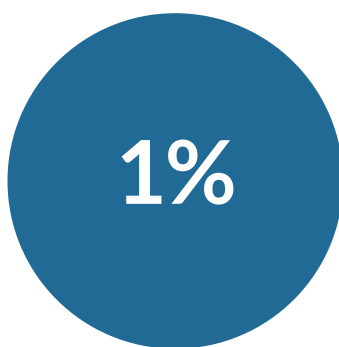
These benefits are achieved, using the modeling assumptions here, with a total \$40,000,000 price tag (Table 6), a mere one percent of the State's current educational budget. Recurring expenditures cost just two-tenths of a percent to maintain the system and extend residency-prepared teachers into nearly 200 more classrooms each year—just \$22 a student. In any context, it's hard to imagine a better investment with high returns; in the current flush fiscal times, the case for moving forward with a version of this modeling is even more compelling.

*Table 6: Overview of Total State Investment*

Project Year	School Year	# of Residents Prepared	# of Residency Partnerships Developed	State Investment
0	2021-22	--	20	\$1,300,000
1	2022-23	300	10	\$8,900,000
2	2023-24	500	--	\$12,300,000
3	2024-25	500	--	\$9,000,000
4	2025-26	500	--	\$7,500,000
TOTALS				\$39,000,000



Cost to transform 1000 vacancies to permanent residencies over 4.5 years



Portion of the State education budget



Per-pupil cost to permanently sustain the residency system

For questions or suggestions about this document, please contact

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# Endnotes

- 1 Jessica Cardichon et al., “Inequitable Opportunity to Learn: Student Access to Certified and Experienced Teachers” (Palo Alto, CA: Learning Policy Institute, 2020).
- 2 Desiree Carver-Thomas and Linda Darling-Hammond, “Teacher Turnover: Why It Matters and What We Can Do about It” (Palo Alto, CA: Learning Policy Institute, August 2017), <http://bit.ly/2w691jU>; Pam Grossman and Susanna Loeb, *Alternative Routes to Teaching: Mapping the New Landscape of Teacher Education* (Cambridge, MA: Harvard Education Press, 2008).
- 3 The Sustainable Funding Project, “For the Public Good: Quality Preparation for Every Teacher” (New York, NY: Bank Street College of Education, Prepared to Teach, June 2016), <http://bit.ly/2tJJIUg>; Hannah Dennis and Karen DeMoss, “The Residency Revolution: Funding High-Quality Teacher Preparation” (New York, NY: Prepared To Teach, Bank Street College of Education, April 2021).
- 4 Pamela Cantor et al., “Malleability, Plasticity, and Individuality: How Children Learn and Develop in Context1,” *Applied Developmental Science* 23, no. 4 (October 2, 2019): 307–37, <https://doi.org/10.1080/10888691.2017.1398649>; David Osher et al., “Drivers of Human Development: How Relationships and Context Shape Learning and Development,” *Applied Developmental Science*, January 24, 2018, 1–31, <https://doi.org/10.1080/10888691.2017.1398650>; Linda Darling-Hammond et al., “Implications for Educational Practice of the Science of Learning and Development,” *Applied Developmental Science* 24, no. 2 (February 17, 2019): 43.
- 5 Elizabeth Green, *Building a Better Teacher: How Teaching Works* (New York, NY: W. W. Norton & Company, 2014), <https://amzn.to/2DGQU6l>; Linda Darling-Hammond et al., *Empowered Educators: How High-Performing Systems Shape Teaching Quality around the World* (San Francisco, CA: Jossey-Bass, 2017); OECD, “Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States,” *Strong Performers and Successful Reformers in Education* (Château de la Muette, Paris, 2011), <https://bit.ly/LV5x8K>; Marc S. Tucker and Linda Darling-Hammond, *Surpassing Shanghai: An Agenda for American Education Built on the World’s Leading Systems* (Cambridge, MA: Harvard Education Press, 2011); National Conference of State Legislatures, “No Time to Lose: How to Build a World-Class Education System State by State” (Washington, D.C.: National Conference of State Legislatures, August 2016), [http://www.ncsl.org/documents/educ/Edu\\_International\\_Final\\_V2.pdf](http://www.ncsl.org/documents/educ/Edu_International_Final_V2.pdf).
- 6 Cardichon et al., “Inequitable Opportunity to Learn”; Isaac M. Opper, “Teachers Matter: Understanding Teachers’ Impact on Student Achievement” (Santa Monica, CA: RAND, 2012), [https://www.rand.org/pubs/research\\_reports/RR4312.html](https://www.rand.org/pubs/research_reports/RR4312.html).
- 7 AACTE Clinical Practice Commission, “A Pivot toward Clinical Practice, Its Lexicon, and Renewing the Profession of Teaching,” Draft Executive Summary (Washington, D.C., 2017), <https://bit.ly/3b4hF2V>; Jamie Alter and Jane G Cogshall, “Teaching as a Clinical Practice Profession: Implications for Teacher Preparation and State Policy” (Washington, D.C.: National Comprehensive Center for Teacher Quality, March 2009), <https://eric.ed.gov/?id=ED543819>.
- 8 Cantor et al., “Malleability, Plasticity, and Individuality: How Children Learn and Develop in Context1”; Osher et al., “Drivers of Human Development”; Darling-Hammond et al., “Implications for Educational Practice of the Science of Learning and Development.”
- 9 “An Expert Report Submitted for Consideration in NYSER v. State of New York,” Expert Report (New York, NY: Prepared To Teach, Bank Street College of Education, 2021), <https://educate.bankstreet.edu/pt/32/>.
- 10 Nancy Bacharach, Teresa Washut Heck, and Kathryn Dahlberg, “Changing the Face of Student Teaching through Coteaching,” *Action in Teacher Education* 32, no. 1 (2010): 3–14.
- 11 Karen DeMoss and Brigid Brennan, “Making Teacher Preparation Policy Work: Lessons from and for New York” (New York, NY: Bank Street College of Education, Prepared To Teach, March 2020).
- 12 Ryan Eisner et al., “Examining the Impact of Denver Teacher Residency on Teacher Retention, Teacher Effectiveness, and Student Achievement” (Association for Education Finance Policy, Washington, D.C., March 16, 2017), <http://bit.ly/2EaQciy>; Kay Sloan et al., “A Different, More Durable Model” (San Francisco, CA: Rockman et al, September 2018), <https://files.eric.ed.gov/fulltext/ED593903.pdf>; college; Roneeta Guha and Tara Kini, “Teacher Residencies: Building a High-Quality, Sustainable Workforce” (Palo Alto, CA: Learning Policy Institute, 2016), <http://bit.ly/2phcQwi>.
- 13 Office of the New York City Comptroller Scott M. Stringer 7, “Teacher Residencies: Supporting the next Generation of Teachers and Students” (New York, NY: New York City Comptroller Bureau of Policy and Research, June 2019); “An Expert Report Submitted for Consideration in NYSER v. State of New York”; Learning Policy Institute, “What’s the Cost of Teacher Turnover?,” Learning Policy Institute, September 13, 2017, <http://bit.ly/2CTal6o>.
- 14 Cardichon et al., “Inequitable Opportunity to Learn”; Helen F. Ladd and Lucy C. Sorensen, “Returns to Teacher Experience: Student Achievement and Motivation in Middle School,” *Education Finance and Policy* 12, no. 2 (April 12, 2016): 241–79, [https://doi.org/10.1162/EDFP\\_a\\_00194](https://doi.org/10.1162/EDFP_a_00194); Tara Kini and Anne Podolsky, “Does Teaching Experience Increase Teacher Effectiveness? A Review of the Research” (Palo Alto, CA: Learning Policy Institute, June 3, 2016), <https://learningpolicyinstitute.org/our-work/publications-resources/does-teaching-experience-increase-teacher-effectiveness-review-research/>; U.S. Department of Education, National Center for Education Statistics, “Percentage Distribution of Teachers in Public Middle and High Schools, by Years of Teaching Experience, Main Teaching Assignment, and Selected School Characteristics: 2017–18,” National Teacher and Principal Survey (NTPA) (Washington, D.C.: National Center for Education Statistics), accessed July 25, 2021, [https://nces.ed.gov/surveys/ntps/tables/ntps1718\\_20081704\\_t1n.asp](https://nces.ed.gov/surveys/ntps/tables/ntps1718_20081704_t1n.asp).
- 15 The Sustainable Funding Project, “For the Public Good: Quality Preparation for Every Teacher.”

- 16 Julian Vasquez Heilig and Su Jin Jez, "Teach for America: A Review of the Evidence" (Boulder, CO: National Education Policy Center, January 2014).
- 17 Joseph G. Altonji and Seth D Zimmerman, "The Costs of and Net Returns to College Major," Working Paper (Cambridge, MA: National Bureau of Economic Research, January 2017), <http://www.nber.org/papers/w23029>; Bayliss Fiddiman, Colleen Campbell, and Lisette Partelow, "Student Debt: An Overlooked Barrier to Increasing Teacher Diversity" (Washington, D.C.: Center for American Progress, July 9, 2019), <https://www.americanprogress.org/issues/education-postsecondary/reports/2019/07/09/471850/student-debt-overlooked-barrier-increasing-teacher-diversity/>; Linda Darling-Hammond, "Burdensome Student Loan Debt Is Contributing to the Country's Teacher Shortage Crisis," *Forbes*, November 17, 2019, <https://www.forbes.com/sites/lindadarlinghammond/2019/11/17/burdensome-student-loan-debt-is-contributing-to-the-countrys-teacher-shortage-crisis/>; Jason Delisle, "Graduate Student Debt" (Washington, D.C.: New America Education Policy Program, March 2014); Divya Mansukhani and Francheska Santos, "#MoreLearningLessDebt: Voices of Aspiring Teachers on Why Money Matters" (New York, NY: Prepared To Teach, Bank Street College of Education, February 2021).
- 18 Jacqueline E. King, "Education Students and Diversity: A Review of New Evidence" (Washington, D.C.: American Association of Colleges for Teacher Education, February 2019).
- 19 Anna J. Egalite, Brian Kisida, and Marcus A. Winters, "Representation in the Classroom: The Effect of Own-Race Teachers on Student Achievement," *Economics of Education Review* 45 (April 2015): 44–52.
- 20 Seth Gershenson et al., "The Long-Run Impacts of Same-Race Teachers" (Cambridge, MA: National Bureau of Economic Research, November 2018), <https://doi.org/10.3386/w25254>.
- 21 Albert Shanker Institute, "The State of Teacher Diversity" (Washington, D.C.: Albert Shanker Institute, September 2015), <https://bit.ly/1F9uSWG>; Egalite, Kisida, and Winters, "Representation in the Classroom"; Gershenson et al., "The Long-Run Impacts of Same-Race Teachers"; Constance A. Lindsay and Cassandra M. D. Hart, "Exposure to Same-Race Teachers and Student Disciplinary Outcomes for Black Students in North Carolina," *Educational Evaluation and Policy Analysis* 39, no. 3 (September 2017): 485–510; Andrew J. Rotherham and Thomas Gold, "Window of Opportunity: How States and Localities Can Use Federal Rescue Plan Dollars to Diversify Their Teacher Workforce" (Washington, D.C.: Bellwether Education Partners, July 2021), [https://bellwethereducation.org/sites/default/files/Bellwether\\_%20ARP%20Teacher%20Diversity%20Publication\\_Final.pdf](https://bellwethereducation.org/sites/default/files/Bellwether_%20ARP%20Teacher%20Diversity%20Publication_Final.pdf); U.S. Department of Education, "The State of Racial Diversity in the Educator Workforce" (Washington, D.C., 2016).
- 22 Jessica Yin and Lisette Partelow, "An Overview of the Teacher Alternative Certification Sector Outside of Higher Education," Center for American Progress, 2020, <https://www.americanprogress.org/issues/education-k-12/reports/2020/12/07/480408/overview-teacher-alternative-certification-sector-outside-higher-education/>.
- 23 Richard Ingersoll, Lisa Merrill, and Henry May, "What Are the Effects of Teacher Education and Preparation on Beginning Teacher Attrition?," Research Report (Philadelphia, PA: Consortium for Policy Research in Education, University of Pennsylvania, July 2014), <http://bit.ly/2CTxU4t>; Learning Policy Institute, "What's the Cost of Teacher Turnover?"; Mariana Haynes, Ann Maddock, and Liam Goldrick, "On the Path to Equity: Improving the Effectiveness of Beginning Teachers" (Washington, D.C.: Alliance for Excellent Education, July 17, 2014).
- 24 Bacharach, Heck, and Dahlberg, "Changing the Face of Student Teaching through Coteaching"; DeMoss and Brennan, "Making Teacher Preparation Policy Work: Lessons from and for New York."
- 25 "An Expert Report Submitted for Consideration in NYSER v. State of New York"; Karen DeMoss, "Dollars and Sense: Funding Sustainable, Quality Teacher Preparation" (New York, NY: Prepared To Teach, Bank Street College of Education, May 2021).