



The Teacher Residency

An Innovative Model for Preparing Teachers

Roneeta Guha, Maria E. Hyler, and Linda Darling-Hammond

The Teacher Residency

An Innovative Model for Preparing Teachers

Roneeta Guha, Maria E. Hyler, and Linda Darling-Hammond

External Reviewers

The authors would like to thank the following external reviewers for their invaluable feedback on early drafts of this paper: Dr. Kenneth Zeichner, Boeing Professor of Teacher Education at the University of Washington; Barnett Berry, founder and CEO of the Center for Teaching Quality; and Anissa Listak, Founder and Chief Executive Officer, and Tamara Azar, Chief External Relations Officer at the National Center for Teacher Residencies. We thank them for the care and attention they gave the paper. Any remaining shortcomings are our own.

Acknowledgments

The authors would like to thank the following Learning Policy Institute colleagues for their contributions to the research process: Tara Kini, Anne Podolsky, Leib Sutchter, Elise Levin-Guracar, and Danny Espinoza. We would like to thank Naomi Spinrad and Penelope Malish for their editing and design contributions to this project, and Lisa Gonzales for overseeing the editorial process. Without the generosity of time and spirit of all of the aforementioned, this work would not have been possible.

Research in this area of work is funded in part by the S. D. Bechtel, Jr. Foundation. Core operating support for the Learning Policy Institute is provided by the Ford Foundation, the William and Flora Hewlett Foundation, and the Sandler Foundation.

The appropriate citation for this report is: Guha, R., Hyler, M.E., and Darling-Hammond, L. (2016). *The Teacher Residency: An Innovative Model for Preparing Teachers*. Palo Alto, CA: Learning Policy Institute.

This report can be found online at <https://learningpolicyinstitute.org/product/teacher-residency>. And follow the conversation on Twitter at #SolvingTeacherShortages.

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/>.



Table of Contents

Executive Summary	i
Introduction	1
The Design of Teacher Residencies	3
Key Characteristics of Teacher Residency Programs	6
District/University Partnerships	6
Candidate Recruitment and Selection	6
Clinical Experience.....	7
Coursework	7
Mentor Recruitment and Selection.....	7
Cohorts Placed in Teaching Schools.....	9
Early Career Mentoring	10
Financial Support and Incentives	10
Feature: The San Francisco Teacher Residency Program	11
Impacts of Teacher Residencies on Recruitment, Retention, and Student Achievement	13
Funding Teacher Residency Programs	16
Implications for Policy	17
Conclusion	18
Endnotes	19
Appendix	23
About the Authors	27
 Figures and Tables	
Figure 1: Comparison of 5-Year Teacher Retention Rates: SFUSD	12
Table 1: Retention Findings From Key Residency Studies	14

Executive Summary

The Problem

Recruitment and retention challenges are once again leading to teacher shortages across the nation. Especially in urban and rural school districts, low salaries and poor working conditions often contribute to the difficulties of recruiting and keeping teachers, as can the challenges of the work itself. As a consequence, in many schools—especially those serving the most vulnerable populations—students often face a revolving door of teachers over the course of their school careers. Many of these teachers are underprepared for the work of teaching and learning.

In districts that meet shortages by hiring teachers who have not completed an adequate preparation, turnover is higher, as novices without training leave after their first year at more than twice the rate of those who have had student teaching and rigorous preparation. Similarly, teachers who are left to sink or swim on their own leave teaching at much higher rates than those who receive supportive mentoring in their first years on the job. Under these circumstances, everyone loses: student achievement is undermined by high rates of teacher turnover and by teachers who are inadequately prepared for the challenges they face. Schools suffer from continual churn, undermining long-term improvement efforts. Districts pay the costs of both students' underachievement and teachers' high attrition.

The Potential of Teacher Residencies

Newly emerging teacher residency programs seek to address these problems by offering an innovative approach to recruiting and retaining high-quality teachers for hard-to-staff schools. This report summarizes the features of these programs and research about their practices and outcomes.

In brief, these programs:

- Create a vehicle to recruit teachers for high-needs fields and locations;
- Offer recruits strong content and clinical preparation specifically for the kinds of schools in which they will teach;
- Connect new teachers to early career mentoring that will keep them in the profession; and
- Provide financial incentives that will keep teachers in the districts that have invested in them.

Building on the medical residency model, teacher residencies provide an alternative pathway to teacher certification grounded in deep clinical training. Residents apprentice alongside an expert teacher in a high-need classroom for a full academic year. They take closely linked

Key Characteristics of Strong Residencies:

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

coursework from a partnering university that leads to a credential and a master's degree at the end of the residency year. They receive living stipends and tuition support as they learn to teach; in exchange, they commit to teach in the district for three to five years beyond the residency.

This model fosters tight partnerships between local school districts and teacher preparation programs. Residencies recruit teachers to meet district needs—usually in shortage fields. Then they rigorously prepare them, and keep them in the district. While most began in urban districts, consortia of rural districts and charter school organizations have also created residencies with university partners.

Impact of Residencies

With recent federal and philanthropic support, there are now at least 50 residency programs nationwide, which range in size from five to 100 residents per year (see Appendix). Research suggests that well-designed and well-implemented teacher residency models can create long-term benefits for districts, for schools, and ultimately and most importantly, for the students they serve.

Recruitment: Many residency programs have specific goals around recruitment: diversifying the teacher workforce (attracting more candidates of color, bringing in mid-career professionals) and/or hiring for shortage subject areas like mathematics, science, special education, and bilingual education. Research suggests that residencies bring greater gender and racial diversity into the teaching workforce. Across teacher residency programs nationally, 45% of residents in 2015-16 were people of color. This proportion is more than double the national average of teachers of color entering the field, which is 19%.

In addition to attracting a more diverse workforce, residencies aim to staff high-need schools and subject areas. Nationally, 13% of residency graduates in 2015–16 taught in mathematics, science, or technology fields, and 32% taught English language learners and/or students with special needs.

Retention: National studies of teacher retention indicate that around 20–30% of new teachers leave the profession within the first five years, and that attrition is even higher from high-poverty schools and in high-need subject areas, like the ones in which residents teach, often reaching 50% or more. Studies of teacher residency programs consistently point to the high retention rates of their graduates, even after several years in the profession, generally ranging from 80–90% in the same district after three years and 70–80% after five years. In two of the most rigorous studies to date, researchers found statistically significant differences in retention rates between residency graduates and non-residency peers, controlling for the residents' characteristics and those of the settings in which they taught. Higher retention rates may be attributable to the combination of program quality, residents' commitment to teach for a specific period of time in return for financial support, and induction support during the first one to two years of teaching.

Student Outcomes: Because most residency programs are still in their infancy, only a few studies have examined program impact on student achievement. A 2015 study of the New Visions Hunter College Urban Teacher Residency (UTR) in New York City found that students of UTR residents and graduates outperformed those taught by other novice teachers on 16 out of 22 (73%) comparisons of state Regents exam scores. A value-added analysis of the Boston Teacher Residency (BTR) suggested that graduates were initially comparable to other novice teachers in raising students' English language arts and mathematics scores, but BTR graduates' effectiveness surpassed that of

new and veteran teachers in mathematics by the fourth year of teaching. A study of the Memphis Teacher Residency program found that residency graduates had higher student achievement gains than other beginning teachers and larger gains than veteran teachers on most of the Tennessee Comprehensive Assessment Program (TCAP) exams.

Implications for Policy and Practice

Studies have also pointed to the importance of design and implementation. The success of residencies requires attention to each of the defining characteristics of the model, and the integrity of their implementation. Important factors include the elements of careful recruitment and selection of residents and mentor teachers within a context of a strong partnership between a district and university, a tightly integrated curriculum based on a year-long clinical placement in classrooms and schools that model strong practice, adequate financial assistance, and mentoring supports as candidates take on classrooms and move into their second and third years of teaching.

The Teacher Residency: An Innovative Model for Preparing Teachers

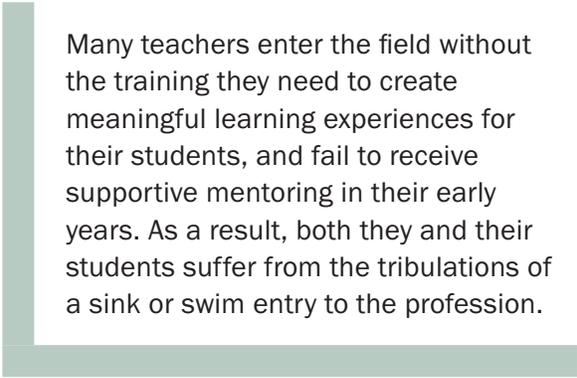
A teacher residency is a mutually beneficial partnership between preparation providers and districts, one in which the integration of clinical experiences and coursework throughout the preparation program is co-designed to strengthen teacher preparation and improve schools and learning in the partner districts.

— Coffman & Patterson¹

Introduction

For many decades, urban and rural school districts have experienced recurring teacher shortages because of both recruitment and retention challenges. Low salaries and poor working conditions can contribute to the difficulties of recruiting and keeping teachers, as can the nature of the work itself. Teaching in schools of concentrated poverty with students from a wide range of languages, cultures, and home settings requires a diverse set of skills and competencies beyond those required in contexts serving more affluent and better-supported students. As a consequence, in many schools—especially those serving the most vulnerable populations—students often face a revolving door of teachers over the course of their school careers, many of whom are underprepared for the fields they teach.²

Under these circumstances, everyone loses: Student achievement is undermined by high rates of teacher turnover³ as well as by the often inadequate preparation teachers receive for the challenges they face.⁴ Many teachers enter the field without the training they need to create meaningful learning experiences for their students, and fail to receive supportive mentoring in their early years.⁵ As a result, both they and their students suffer from the tribulations of a sink or swim entry to the profession.⁶ Schools suffer from the continual churn they experience, which undermines curriculum coherence and improvement efforts.⁷ Districts suffer by paying the costs of students' underachievement and teachers' high attrition, which can reach \$18,000 to replace each teacher who leaves.⁸ Even those who stay may still be underprepared to engage productively in the work of student-centered teaching and learning that is rigorous, relevant, and responsive to the wide-ranging needs found within classrooms. Society suffers from the cumulative effects of poor education that results in lower rates of achievement, graduation, and productive employment for young people.



Many teachers enter the field without the training they need to create meaningful learning experiences for their students, and fail to receive supportive mentoring in their early years. As a result, both they and their students suffer from the tribulations of a sink or swim entry to the profession.

As teacher shortages once again become widespread, discussions of how to recruit and retain high-quality teachers have begun to take center stage in policy circles. Although teacher retirement contributes to some teacher attrition, the primary cause of shortages is the “leaky bucket” of teacher turnover—focusing solely on the recruitment of new teachers instead of supporting the retention of experienced teachers.⁹ Research indicates that new teachers leave the classroom at rates somewhere between 19% and 30% during their first five years of teaching,¹⁰ and this proportion can be much higher in some districts.

Turnover is exacerbated in districts that meet shortages by hiring teachers who have not completed adequate preparation: the odds of a beginning teacher leaving the classroom are three times as high for those who have little coursework or student teaching as they are for those who have had a complete preparation.¹¹ Similarly, teachers who are left to sink or swim on their own leave teaching at much higher rates than those who receive supportive mentoring in their first few years on the job.¹²

Improving the quality of preparation and early career mentoring is one strategy to support the retention of effective teachers and stop the leaky bucket phenomenon of teacher turnover. Newly emerging teacher residency programs address these problems, offering an innovative approach to recruiting and retaining high-quality teachers for hard-to-staff schools.

This report summarizes the features of these programs and research about their practices and outcomes. In brief, these programs:

- Create a vehicle to recruit teachers for high-need fields and locations;
- Offer recruits strong content and clinical preparation specifically for the kinds of schools and communities in which they will teach;
- Connect new teachers to early career mentoring that will keep them in the profession; and
- Provide financial incentives that keep teachers in the districts that have invested in them.

Residencies have typically been focused in hard-to-staff geographic areas (urban and rural) and subject areas (e.g., mathematics, science, special education, bilingual/English as a second language teaching). They recruit the teachers that local districts know they will need early and *before* they are prepared so that they can then prepare the teachers to excel and remain in these contexts. When used in this deliberative manner, teacher residencies can address a crucial recruitment need while also building the capacity of the districts to provide high-quality instruction to the students they serve.

The Design of Teacher Residencies

The residency concept is often associated with the medical school approach to training doctors. As part of their residency programs, doctors complete guided clinical practice in a highly supervised setting where they work with patients under the wing of more expert veterans and apply what they have learned in practice. Teacher residencies are based on the same premise: that those learning to teach need authentic learning experiences with expert mentorship in the context in which they will eventually be teaching.

Although many teacher preparation programs have evolved substantially, traditional university-based programs have often been critiqued for being academically and theoretically focused with limited and disconnected opportunities for clinical experience. Conversely, alternative routes into teaching have been criticized for focusing on “learning by doing” with limited theoretical grounding and little or no opportunity for supervised student teaching in which they can learn alongside expert teachers modeling good practice.¹³ These critiques, coupled with the challenge of hiring and keeping well-prepared teachers in hard-to-staff districts, have led to the “third space” from which teacher residencies have grown in the last 15 years.¹⁴

In part, the residency design emerged from the Master of Arts in Teaching programs started in the 1960s and ‘70s—an earlier era of teacher shortages—as federally funded innovations at elite colleges and universities. Columbia, Harvard, Stanford, and the University of Chicago, among others, launched year-long post-graduate programs that typically placed candidates in schools for a full year of student-teaching internships in the classrooms of expert veteran teachers, while the candidates also took coursework from the university. In those days, the federal government provided aid to offset many of the costs of these teacher preparation programs. Even though federal aid has dwindled considerably, many of these programs continue today. This design created the foundation for the residency model, which adds a closer connection to the hiring district and additional financial incentives, as well as mentoring supports for the candidate.

Several characteristics set teacher residency programs apart from most traditional teacher preparation and alternative certification programs.

- First, residencies are typically developed as a partnership between a school district and a local institution of higher education (IHE), with the goal of fulfilling the partner district’s hiring needs. In recent years, consortia of smaller districts have created such programs with partnering teacher education programs, as have charter management organizations. Sometimes multiple universities partner with one or more districts to create a residency program. Some residency programs also include a community-based or nonprofit organization as an additional partner, which serves as a third party in the partnership.
- A second characteristic of residencies is a longer clinical placement than is found in most traditional or alternative programs, generally at least a full school year, with residents working under the guidance of an experienced, expert mentor—*before* becoming the teacher of record. In contrast, teachers in most traditional teacher preparation programs are typically required to undergo only 10–15 weeks of student teaching,¹⁵ and teachers in alternative preparation programs may receive little to no supervised clinical experience prior to becoming the teacher of record.

- Finally, high-quality residencies offer teacher candidates a curriculum that is tightly integrated with their clinical practice, which creates a more powerful learning experience. The interconnectedness of theory to practice reinforces best, research-based practices for teacher residents.

The first identified urban teacher residency began in 2001 in Chicago when education, business, and community leaders utilized the residency model as a solution to recruiting and retaining high-quality teachers for the hard-to-staff Chicago public schools.¹⁶ Soon after, in 2003, residencies were created in Boston and Denver. In 2004, these three residency programs formed an informal partnership to share best practices and learn from each other. This group became the National Center for Teacher Residencies (NCTR),¹⁷ which is currently a network of 23 teacher residencies (see Appendix A) that describe themselves as, “... the only organization in the nation dedicated to developing, launching, supporting and accelerating the impact of teacher residency programs.”¹⁸ Although most residencies have been launched in urban districts, consortia of rural districts and charter school organizations have also recently created residencies with teacher preparation partners. These programs share a common approach: All carefully recruit and screen talented college graduates who are interested in a long-term career in teaching, offering them a year-long paid residency under the tutelage of master teachers. During the year, while they learn to teach in the classroom of an expert teacher, residents also undertake carefully constructed coursework from partner universities who work closely with the residency sponsor. In some cases, special schools are designated as residency sites: Much like teaching hospitals, these schools are committed to training novices and are able to model state-of-the-art practice, offering excellent teaching to diverse students from the mentor teachers who train new practitioners.

The courses (sometimes taught or co-taught by district employees) are designed to reinforce the clinical experience by tightly aligning the curriculum to the practice of the expert teachers into which the residents are subsequently mentored. Teaching residents receive a salary or a stipend during this year and a master’s degree and credential at the end of the year. Additional financial incentives can include reduced or forgiven tuition costs and university fees.

In some cases, special schools are designated as residency sites: Much like teaching hospitals, these schools are committed to training novices and are able to model state-of-the-art practice, offering excellent teaching to diverse students from the mentor teachers who train new practitioners.

Residency completers also continue to receive mentoring during their initial 1–3 teaching years. In return, they pledge to teach for a minimum number of years (generally 3–5) in the partner district schools.

In many cases, residencies have been explicit that their goal for this integrated, comprehensive preparation is that residents learn best practices that support students’ learning of 21st century knowledge and skills. Today’s world and the changes coming in the future require more than rote learning and memorization of disconnected facts: students need teaching and learning that allow them to master deep content knowledge; develop problem-solving, communication, and collaborative skills; and attain the social-emotional awareness and academic mindsets necessary to succeed in college and career. This type of “deeper learning,” which demands more sophisticated teaching strategies, is at the heart of best practices in teacher residencies.

The Newark Montclair Urban Teacher Residency (NMUTR) program offers a good example. The instructors in the program intentionally model the type of instruction they desire their residents to employ with their students. In coursework, they focus on constructivist, problem-posing education, rejecting the concept of learners as passive receivers of information. Instead, instructors are “... committed to bringing residents’ prior knowledge and experience, and current contexts and needs, to bear in their knowledge construction and meaning-making.”¹⁹ Inquiry-based teaching and learning are modeled, scaffolded, and supported as residents transfer their learning into teaching their students.

Thus, some districts look to residencies not only to solve recruitment and retention challenges, but also to serve as a means of systemic change. The success of the model relies on accomplished teachers in schools serving as mentors to residents who are completing their program. In strong programs, these mentors receive professional development to strengthen their ability to support the resident, and in turn their own practices are enhanced. Additionally, after residents successfully complete their program, they often serve as mentors themselves later in their careers. “This full circle is creating a powerful cycle for meaningful urban teacher preparation and further professional development.”²⁰ As one former resident, now a mentor, explained:

The success of the model relies on accomplished teachers in schools serving as mentors to residents who are completing their program.

I have no doubt that my current experience, as a mentor-teacher working within the same program where I learned to teach, has provided me with some essential understandings. The insight, creativity, honesty, and the support needed for the work of mentoring were provided to me as a resident teacher six years ago. To reflect on the scope of my experiences, that of a resident teacher, beginning teacher ... and now a mentor-teacher, has equipped me with a critical lens of understanding. This understanding is the process, the time, the complexity of teaching. I try to make these layers as transparent as I can. I believe understanding and clarity are some of the best tools I have been given from my experience.²¹

Key Characteristics of Teacher Residency Programs

Although each teacher residency program is unique, there are a few key common characteristics shared by high-quality residencies. The programs typically:

- Are strong partnerships between school districts and universities;
- Recruit high-ability candidates to meet specific district hiring needs, especially in fields where there are shortages;
- Provide a full year of clinical practice teaching alongside an expert mentor teacher;
- Provide relevant coursework that is tightly integrated with clinical practice;
- Recruit and train expert mentor teachers who co-teach with residents;
- Place cohorts of residents in “teaching schools” that model good practices with diverse learners and are designed to help novices learn to teach;
- Offer ongoing mentoring and support for graduates; and
- Offer financial support for residents in exchange for committing to teach in the sponsoring district for a minimum number of years.

District/University Partnerships

In contrast to traditional teacher preparation programs, which often do not recruit and place candidates in specific districts to fulfill the districts’ particular needs, residents are recruited to work for the partner district (or charter management organization) and fulfill its hiring needs (e.g., filling shortage subject areas and/or teaching in specific schools). Residents commit to teaching in the local school district after the program ends. High-quality residency programs are co-designed between the district (or charter management organization) and the university to ensure residents get to know the students and families in the communities in which they will be teaching and are rigorously prepared to teach in those communities and school contexts (e.g., in the use of local instructional practices, curricula, standards, and assessments, as well as common approaches to classroom management, advisory systems, positive behavioral supports, and the like).

High-quality residency programs are co-designed between the district (or charter management organization) and the university to ensure residents get to know the students and families in the communities in which they will be teaching and are rigorously prepared to teach in those communities and school contexts.

Candidate Recruitment and Selection

Residencies differ from traditional and alternative certification in their selection of candidates and in the incentives they provide to attract top candidates. Districts and preparation programs partner in the recruitment and selection of the residents to ensure that residents meet local hiring needs. In addition, the programs aim to broaden and diversify the local teacher workforce by selecting high-quality candidates through a competitive screening process. Residencies recruit candidates from a wide variety of backgrounds, both recent college graduates and mid-career professionals. For example, a study of the Boston Teacher Residency found that the median age of candidates during the residency was 26, and one out of three candidates had been out of college for at least

five years.²² To attract top-notch candidates, residencies apply rigorous selection criteria. A study of 30 teacher residency programs funded through the federal Teacher Quality Partnership (TQP) grant noted that the screening process of these programs favored recent college grads or mid-career professionals with the following attributes: strong content knowledge or a record of accomplishment in the chosen field, strong oral and written communication skills, and “other attributes linked to effective teaching.”²³ A study of the Aspire and Denver residency programs found that those two programs considered candidates’ dispositions—persistence, resourcefulness, understanding of cultural differences, belief they could impact students’ academic success, and coachability—as reflected in an interview and an essay, in addition to their GPA and transcript.²⁴ The programs are highly selective: Only 22% of applicants were selected to participate in the Denver Teacher Residency program; Aspire accepted only 10% of applicants.²⁵

Clinical Experience

For at least one academic year, candidates spend 4–5 days a week in a classroom under the wing of an experienced and trained mentor teacher, and gradually take on more responsibilities over the course of the year.²⁶ Residencies invest much more heavily in practice-based training than most traditional or alternative preparation programs. For example, most residents receive at least 900 hours of preservice clinical preparation, while the norm for most traditional programs is in the range of 400–600 hours.²⁷ Most alternative certification programs offer little or no student teaching at all.

Residencies invest much more heavily in practice-based training than most traditional or alternative preparation programs.

Coursework

Coursework in residencies is closely integrated with clinical experiences. Sometimes, courses are designed and taught by experienced teachers in the district.²⁸ Often, the university faculty who teach courses are involved in local schools and are former teachers. Many courses are co-taught by school and university faculty. One study found that residents across 30 teacher residency programs took an average of 450 hours of coursework, roughly equivalent to 10 college courses; residents in these programs reported that the coursework was well integrated with their clinical experiences, a key goal of residencies.²⁹

Additionally, many programs require frequent feedback and performance-based assessments of candidates’ classroom practice. In several residencies in California (e.g., San Francisco, Chico, Dominguez Hills), teachers complete the Performance Assessment for California Teachers (PACT)—a portfolio modeled on that used for National Board Certification—as part of their preparation. Other residencies are in states that require a similar performance-based assessment, such as the edTPA or a local portfolio, be completed successfully prior to certification. Candidates take graduate-level coursework that leads to both state certification/licensure and a master’s degree from the partner university.

Mentor Recruitment and Selection

Residencies not only allow districts to attract and train high-quality teacher candidates, but also provide career advancement opportunities for experienced teachers within those districts to serve as mentors, supervisors, and instructors in the programs. As it is for candidates, the selection

process for mentors typically is rigorous because they must be both experienced and accomplished. A study of 30 teacher residency programs found that mentors in these programs had, on average, 10 years of prior teaching experience.³⁰

Mentors in the National Center for Teacher Residencies (NCTR) network are “expected to perform in the top 30% of their school or district” teacher evaluation, and districts generally have a rigorous selection process that includes interviews and other evidence, which may include portfolios or teaching demonstrations.³¹ In the Newark Montclair Urban Teacher Residency (NMUTR) program, for example, mentor teachers are selected through a collaborative process with Newark Public School administrators identifying potential mentors, and NMUTR faculty and program staff observing those potential mentors in their classrooms. Potential mentors have to submit a letter of interest, review a video of someone teaching, and demonstrate how they would provide teaching advice to residents in the program.

NCTR mentors also need to have a demonstrated ability to effectively coach adult learners, communicate clearly, and be collaborative, open to feedback, and enthusiastic about teaching.³² Residencies typically provide mentors with extensive training in how to effectively coach residents; the study of 30 teacher residency programs found that mentors received an average of 37 hours of training through the program and had an average of 3.5 semesters of prior mentoring experience.³³

Attracting, and developing a large pool of qualified mentors is a major challenge for residency programs, because the monetary incentives are limited and the time commitments are considerable.³⁴ For example, the Denver residency program provides each mentor with a \$2,000 stipend for the year, while the Aspire program offers each mentor a \$3,000 stipend plus \$500 to be used for professional development.³⁵ Although such financial benefits are not available to mentors in all residency programs, there are other non-financial rewards to mentoring in teacher residency programs. Notably, mentors themselves benefit by improving their own practice. In fact, 94% of NCTR mentors participating in 2014–15 reported that mentoring residents made them a more effective teacher.³⁶ As a mathematics and science mentor from the UCLA IMPACT program explained:

The mentorship experience re-inspired me. I became a more reflective educator by working closely with someone daily and my students benefited by having two teachers in the classroom. Mentoring also made me think back to everything that I had stopped doing and reminded me how to be a better teacher.³⁷

Building the capacity of the teaching profession is also a part of the reward and motivation of mentoring in residency programs. In one study of eight urban residency mentor teachers, these mentors reported seeing their role as part of the “big picture” of urban reform, and seeing their efforts in supporting “well-prepared” and “committed teachers” to work at and be successful in urban schools as giving back to the community with social justice and urban renewal impacts. In terms of preparing future urban educators, these mentors believed a year-long placement was “necessary” for preservice teachers to develop a student-centered practice, to have a holistic understanding of the range of teaching roles and responsibilities urban teachers face, and to develop the ability to effectively transfer these skills and knowledge bases into urban schools when residents become teachers of record.³⁸

Building the capacity of the teaching profession is also a part of the reward and motivation of mentoring in residency programs.

Cohorts Placed in Teaching Schools

Another key feature of many residencies is the placement of candidates into cohorts; graduates of a program may be clustered in university courses as well as school sites to create a stronger support network and to foster collaboration among new and experienced teachers.³⁹ For example, in the Los Angeles IMPACT program, residents (called apprentices) are clustered in courses, as well as in their site placements, where they continue to develop relationships among themselves, as well as with the faculty at these schools. Seventy-three percent of apprentices polled in a study of the IMPACT program said that the weekly seminar course they took at UCLA allowed them to stay connected and build strong relationships with peers during their intense first year of teaching.

The seminar course gave me a place to vent about the struggles of my first semester teaching. Through these meetings, I collaborated with my peers and had reflective and courageous conversations.⁴⁰

— Mathematics and Science apprentice

Apprentices from the IMPACT program note that their school site placements are key in supporting their learning and development, particularly by being able to observe and study a variety of teaching styles.⁴¹ These kinds of teaching schools are often called professional development schools (PDSs) or partner schools. Faculty from the school and university work together to develop curriculum, improve instruction, and undertake school reforms, making the entire school a site for learning and feedback for adults and students alike.⁴² Many such schools actively pursue an equity agenda by confronting the inheritances of tracking, poor teaching, inadequate curriculum, and unresponsive systems.⁴³ Resident teachers are encouraged to participate in all aspects of school functioning, ranging from special education and support services for students to parent meetings, home visits, and community outreach to faculty discussions and projects aimed at ongoing improvement in students' opportunities to learn. This kind of participation helps prospective teachers understand the broader institutional context for teaching and learning so that they may begin developing the skills they will need throughout their careers for effective participation in collegial work around school improvement.

Studies of highly developed PDSs have found that new teachers who graduate from such programs feel better prepared to teach and are rated by employers, supervisors, and researchers as stronger than other new teachers. Veteran teachers working in such schools describe changes in their own practice as a result of the professional development, action research, and mentoring that are part of the PDS. Studies have documented gains in student performance tied to curriculum and teaching interventions resulting from PDS initiatives.⁴⁴ Having centers of support for continuous professional learning is essential for turning around schools that serve the students most often left behind because their teachers are left behind. Although these types of schools also exist outside of teacher residencies, residencies take special care in choosing clinical sites and generally ensure that several residents are at each placement, encouraging cohort support and collaboration.

Resident teachers are encouraged to participate in all aspects of school functioning, ranging from special education and support services for students to parent meetings, home visits, and community outreach to faculty discussions and projects aimed at ongoing improvement in students' opportunities to learn.

Early Career Mentoring

Programs also provide early career mentoring and support for 1–3 years after candidates become the teacher of record. For example, the Boston Teacher Residency (BTR) program—like many other residencies—provides graduates with two years of induction support, following the one year of induction provided directly by Boston Public Schools. In fact, one study notes:

BTR is conceived as a 4-year program, comprised of 1 year of preparation and 3 years of induction support. New teachers are not “done” on graduation day.⁴⁵

Graduates of the program receive one-on-one coaching and have continued access to courses that are aligned with their preparation courses—building on their knowledge and skills from the preparation year. Information regarding residents’ strengths and areas for growth is shared from the preparation year to the induction year, ensuring a seamless transition building on what was accomplished in preparation.⁴⁶ This type of intentional mentoring in high-quality residency programs can be very important both for developing teachers’ competence and reducing attrition. Studies show that having planned time to collaborate with a mentor in the same subject area is a key element of successful induction that supports beginning teacher retention.⁴⁷

Intentional mentoring in high-quality residency programs can be very important both for developing teachers’ competence and reducing attrition.

Financial Support and Incentives

Unlike most traditional or alternative preparation programs, residency programs are organized and funded to offer financial incentives to attract high-quality candidates with diverse backgrounds and experiences while providing them intensive preparation. These incentives include living stipends, student loan forgiveness, and/or tuition remittance in exchange for residents’ commitment to teaching in the district for a specified period of time, typically 3–5 years. One cross-site study cites resident contributions for their training and master’s degrees to be anywhere from \$0 to \$36,000 in the programs reviewed.⁴⁸

Other kinds of resident funding and support, such as stipends and tuition reimbursements, also vary. Often a living stipend is lower if tuition reimbursements are higher. For example, residents in the Los Angeles Teacher Residency Program receive a \$25,000 stipend during the 12-month program, yet they are responsible for tuition and fees for all coursework at California State University Los Angeles (CSULA) beyond those covered by external loans or scholarships. The Jacksonville Teacher Residency, on the other hand, offers a \$20,000 living stipend and tuition reimbursement for costs of a master’s degree as long as the residents complete their teaching commitment. Other programs offer living stipends of around \$12,000 to \$13,000 but also provide health insurance and cover the full cost of tuition and fees.

The San Francisco Teacher Residency Program: A Residency at Work

In 2010, the San Francisco Unified School District (SFUSD) partnered with the University of San Francisco (USF), Stanford University, and the local teachers' union United Educators of San Francisco to create the San Francisco Teacher Residency (SFTR). Residents complete a year-long apprenticeship teaching alongside an expert teacher in a high-needs school, while taking courses at night that are tightly integrated with their clinical placement. The 32 residents come together once a week for additional coursework taught by SFTR and SFUSD leaders on topics particularly relevant to district teachers, including implementing restorative justice practices, developing trauma-informed classrooms, and understanding the SFUSD common core curriculum.

As part of the SFTR program, residents also participate in “clinical instructional rounds,” modeled on medical rounds, in which they visit classrooms in other schools to observe expert instructional practices and then debrief with their supervisors. Upon successful completion of the program, residents receive a guaranteed teaching job in SFUSD and two years of additional intensive coaching and mentoring support—known as induction—from SFTR. As one SFTR graduate observed:

“I set up the classroom with my cooperating teacher the week before the first day of school ... and I started from the very, very first day of school. I got to see an entire year, five days a week. Just seeing the full year, I knew what to expect, and I felt like I had so much more experience.”

The SFTR offers a more affordable pathway into teaching for many prospective teachers while providing intensive preparation for the challenges of teaching in a high-needs school. In exchange for a commitment to teach for at least three years in SFUSD, residents receive a 50% tuition remission at USF or significant scholarship support and loan forgiveness at Stanford. Residents also receive more than \$18,000 in AmeriCorps stipends, free health benefits, and nearly \$5,000 per year in housing stipends for three years to assist with the prohibitively high cost of housing in San Francisco. Many residents identify this strong financial support as a key reason why they chose SFTR over other pathways into teaching.

SFTR carefully chooses mentor teachers based on a demonstrated track record of successful teaching and their interest in mentoring the next generation of teachers. They are provided significant professional learning opportunities through SFTR, with paid substitutes and a \$2,500 stipend. As one SFTR mentor teacher stated:

“What I really enjoy about being a mentor teacher is the fact that it doesn't keep me stale in my teaching. It really keeps me young. It keeps me engaged.”

Additionally, building on the professional development school model, SFTR places residents in a small number of “teaching academies.” These schools, which serve primarily low-income students of color, have been identified as “hard to staff” by the district while at the same time having strong leadership and teaching practices. As one principal who has hired multiple SFTR graduates observed:

“The residents who are now teaching here definitely have a leg up. They understand the students and the wee micro systems we have created to accomplish specific tasks like getting students off of the courtyard in an emergency or passing out snack on rainy

days. They know the curriculum, and they usually know the parents ... the kids already know their faces! It would be great if all new teachers could come in with that sort of knowledge, able to start off without being overwhelmed by everything and anything.”⁴⁹

Figure 1
Comparison of 5-Year Teacher Retention Rates: SFUSD



Source: SFUSD Human Resources Department; San Francisco Teacher Residency.

Since 2010, SFTR has prepared nearly 150 aspiring teachers to work in high-needs schools within the San Francisco Unified School District. Now in its sixth year, the district’s investment appears to be paying off:⁵⁰

- **SFTR graduates show remarkably high retention rates.** After five years, 80% of SFTR graduates are still teaching in SFUSD, compared with 38% of other beginning teachers hired by SFUSD and 20% of Teach for America (TFA) corps members placed in SFUSD. Of all SFTR graduates over the past five years (including first-, second-, third-, and fourth-year teachers), 97% are still teaching, with 89% still teaching in SFUSD.
- **SFTR grads are helping to diversify the SFUSD teacher workforce.** Sixty-six percent of SFTR grads are teachers of color, compared with 49% of SFUSD teachers as a whole.
- **SFUSD principals say SFTR graduates are more effective than other new teachers.** One hundred percent of principals agree that SFTR graduates are more effective than other new teachers from both university-based and alternative routes.
- **Students taught by SFTR graduates have high levels of confidence in their teachers’ competence.** On the YouthTruth Student Survey administered to more than 1,700 middle and high school students taught by SFTR graduates, students were especially confident in their teachers’ ability to engage students, develop personal relationships, and employ academic rigor, high expectations, and strong instructional methods with them. High school students also rated their teachers as having strong expertise in creating a positive classroom culture.

Impact of Teacher Residencies on Recruitment, Retention, and Student Achievement

A small but growing body of research has been conducted on the impact of residencies on teacher recruitment, teacher retention, and student achievement. Most studies have been in-depth case studies of the earliest programs; to date, only one comprehensive study (of the Teacher Quality Partnership grant) examines characteristics and impact across several programs nationally. The findings from these studies regarding the impact of teacher residencies on teacher recruitment and retention are promising, although more research is needed, especially with respect to teacher impacts on students.

Impact on Recruitment

Many residency programs have specific goals around recruitment: diversifying the teacher workforce (for example, attracting more candidates of color, bringing in mid-career professionals) and/or hiring for shortage subject areas like mathematics, science, special education, and bilingual/English as a second language (ESL) education. These goals are often met. Across teacher residency programs nationally, 45% of residents in 2015-16 were people of color.⁵¹ This proportion is more than double the national average of teachers of color entering the field, which was 19% in 2012 (the most recent year such national data are available).⁵²

In-depth studies of some of the earliest residencies in Boston, Denver, and Chicago found that these programs attract and prepare a more diverse pool of candidates, with anywhere from one-third to one-half of residents identifying as people of color, a far larger proportion than other novice teachers in their districts. The San Francisco Teacher Residency enrolls more than two-thirds teachers of color (see page 12).

In addition to attracting a more diverse workforce, residencies aim to staff high-need schools and subject areas. NCTR's study of the Denver and Aspire teacher residency programs found that over 50% of graduates teach in secondary mathematics, science, linguistically diverse, or special education classrooms.⁵³ Graduates of Boston's Teacher Residency program are also more likely than other novice teachers to teach mathematics and science.⁵⁴ Nationally, 13% of NCTR graduates teach in a STEM (science, technology, engineering, and mathematics) subject, and 32% teach English language learners and/or students with special needs.⁵⁵

One study of 30 teacher residency programs found that graduates were more likely to be career changers than peers from other programs working in the same districts, suggesting that residencies draw from a broader candidate pool than other programs and that teaching is a more often a distinct career change for residents than non-residents.⁵⁶ One-third of residents in the NCTR network are career changers, meaning they entered the program with three or more years of work experience after college.⁵⁷

Impact on Retention

National studies of teacher retention indicate that around 20–30% of new teachers leave the profession within the first five years and that attrition is even higher from high-poverty schools and in high-need subject areas, like the ones in which residents teach, often reaching 50% or more.⁵⁸

Studies of teacher residency programs consistently point to the high retention rates of their graduates, even after several years in the profession, ranging from rates of 80–90% in the same district after three years and 70–80% after five years (see Table 1). In two of the more rigorous studies, researchers found that, after controlling for a range of school and district characteristics, there were significant differences in retention rates between residency graduates and non-residency peers.⁵⁹

Table 1
Retention Findings From Key Residency Studies

Study	Sample	Methods	Findings for Residency Graduates
Teacher Preparation Quality Grants ⁶⁰	Residency graduates vs. representative sample of teachers in the same districts from other preparation programs all in their first or second year of teaching in 2011–12	Regression that compares retention rates of residency graduates to non-resident teachers with similar teaching placements, controlling for key district and school characteristics.	82% of graduates were still teaching in their same district in Year 3 or 4 vs. 72% of non-residents still teaching in their same district Year 3 or 4.
Boston Teacher Residency ⁶¹	Residency graduates vs. non-resident teachers in Boston Public Schools	Descriptive analysis that compares retention rates of residency graduates to non-resident teachers.	80% of graduates were still teaching in Boston Public Schools in Year 3* vs. 63% of non-resident teachers still teaching in Year 3. 75% of graduates were still teaching in Year 5 vs. 51% of non-resident teachers still teaching in year 5. *Retention rates did not decline noticeably after graduates fulfilled three-year commitment.
Memphis Teacher Residency ⁶²	Residency graduates vs. new teachers statewide	Descriptive analysis that compares retention rates of graduates to overall retention statewide.	95% of graduates were still teaching in Tennessee public schools in Year 3 compared with 41% of teachers statewide still teaching in public schools in Year 3.
New Visions Hunter College Urban Teacher Residency ⁶³	Residency graduates vs. non-resident teachers in New York City	Descriptive	93% of graduates still teaching in Year 4 compared with 75% overall in New York City.
San Francisco Teacher Residency ⁶⁴	Residency graduates vs. non-resident teachers in San Francisco Unified	Descriptive	80% of graduates still teaching in Year 5 compared with 38% of non-resident teachers.
Boston Teacher Residency ⁶⁵	Residency graduates	Descriptive	90% of graduates were still teaching after three years.
Academy for Urban School Leadership (AUSL) in Chicago ⁶⁶	Residency graduates	Descriptive	95% of graduates were still teaching after three years.
Denver Teacher Residency ⁶⁷	Residency graduates	Descriptive	84% of graduates were still teaching after three years.
Aspire Teacher Residency ⁶⁸	Residency graduates	Descriptive	82% of graduates were still teaching after three years.
Newark Montclair Urban Teacher Residency ⁶⁹	Residency graduates	Descriptive	92% of graduates were still teaching after three years.
National Center for Teacher Residencies ⁷⁰	Residency graduates	Descriptive	80% of graduates were still teaching in a high-need partner/CMO district after three years. 70% of graduates were still teaching in a high-need partner district/charter management organization after five years.

The combination of program quality, residents' commitment to teach for a specific period of time in return for financial support, as well as induction support during the first one to two years of teaching may all contribute to the higher retention rates.

Impact on Student Achievement

Because most residency programs are still in their infancy without enough years of data on student achievement, few studies have been conducted to date that examine program impact. A 2015 study of the New Visions Hunter College Urban Teacher Residency (UTR) in New York City found statistically significant differences in 22 comparisons of UTR-trained teachers' impact on student achievement, noting that the students of UTR residents and graduates outperformed those taught by other novice teachers on 16 out of 22 (or 73%) comparisons of New York State Regents exam scores; student taught by UTR-trained teachers earned higher Regents scores most often on the Living Environment exam, followed by English, Integrated Algebra, and Chemistry.⁷¹

Other studies looking at achievement effects also suggest largely positive results. For example, a value-added analysis of the Boston Teacher Residency suggested that achievement gains of graduates' students were initially comparable to those of other novice teachers' students in English Language Arts and mathematics, but graduates' students' achievement gains in mathematics "improve[d] rapidly over time" such that by their fourth or fifth year of teaching, BTR graduates outperformed veterans by 7% of a standard deviation.⁷²

The most recent report on the Memphis Teacher Residency program found that residency graduates had higher student achievement gains than other beginning teachers and larger gains than veteran teachers on most, but not all, Tennessee Comprehensive Assessment Program (TCAP) exams, the standardized tests taken by Tennessee public school students.⁷³ Residency graduates' student gains were greater than those of teachers statewide in the high school end-of-course exam composite and greater than those of other beginning teachers in the 4th–8th grade TCAP mathematics and high school end-of-course exam composite, but smaller than those of other teachers in 4th–8th grade TCAP reading and social studies.

We recognize the limitations for drawing inferences about teacher effectiveness of value-added models measuring student test score gains.⁷⁴ Recent studies have shown that the metrics for individual teachers are highly unstable from year to year, class to class, and test to test, and that they are particularly inaccurate for teachers whose students are at the top or bottom of the distribution, in part because exams measuring grade-level standards do not include items that could measure growth accurately for these students. In addition, small samples add to the problems of drawing strong inferences. Additional studies, using a range of measures of student learning and outcomes over time, are needed for more definitive findings.

Funding Teacher Residency Programs

The Higher Education Opportunity Act helped spur the rapid growth of teacher residencies. In 2008, the federal government created the Teacher Quality Partnership (TQP) Grants Program to fund innovative programs.⁷⁵ This became the single largest source of funding for teacher residency programs between 2008 and 2014.⁷⁶ Although the residency model initially was created to support the recruitment and retention of teachers in urban districts, recipients of the TQP grants include rural residency programs as well (for example, Arizona State University in partnership with the Arizona Board of Regents; Bard College Rural Teacher Residency Program (New York City); California State University, Chico; and Louisiana State University).

Although some states have offered financial support for residencies, very few have legislation specifically targeting the development and implementation of residency programs. One exception is Texas, whose state legislature offered a competitive \$1.29 million grant to Texas A&M University-Commerce in 2013 to implement a teacher residency program, from which the first cohort matriculates in 2016.⁷⁷ Tennessee allocated \$8 million of its Race to the Top funds to support teacher and principal residency programs. The Memphis Residency Program in partnership with Memphis City Schools and the TEACH/Here residency program in Hamilton County both received \$2 million per year for the life of the grant.⁷⁸ Both West Virginia and New York financially supported efforts linked to “clinically rich” preparation programs, although not specifically teacher residencies.⁷⁹

Residencies can be supported financially through tuition subsidies or loan reimbursements that are generally available for teacher education, as well as those that may be targeted specifically to these programs. For example, the federal TEACH Grant provides up to \$4,000 annually in scholarships to undergraduates and graduate students who will commit to teaching for at least four years in high-need schools. As most residencies require a minimum number of years committing to teaching in a specific district, this can be one source of funding.

Residencies can be supported financially through tuition subsidies or loan reimbursements that are generally available for teacher education, as well as those that may be targeted specifically to these programs.

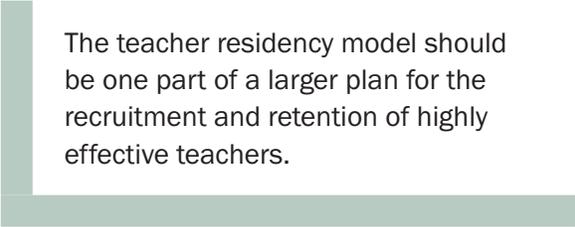
These financial supports can come from a variety of sources: district funds (often allocated from Title II of the Elementary and Secondary Education Act [ESEA]), direct federal funds such as TQP grants (under Title II of the Higher Education Act) or AmeriCorps (specifically for resident stipends), philanthropic support, and federal or state scholarships to offset tuition costs. The amount of funding from each potential source varies greatly for each program.⁸⁰

Implications for Policy

Successful residencies appear to include several defining characteristics. These include the careful recruitment and selection of residents and mentor teachers within a context of a strong partnership between a district and university, a tightly integrated curriculum based in a year-long clinical placement in classrooms and schools that model strong practice, adequate financial assistance for candidates, and mentoring supports as candidates take on classrooms and move into their second and third years of teaching. Neglecting any one of the elements of the residency model could jeopardize the success of the model.

Additionally, at the heart of the teacher residency model are the context-specific needs of schools and districts. Districts are equal partners in determining how teachers should be recruited and prepared, articulating needs and providing learning spaces for residents that include participation of expert teachers who provide mentorship and support. Universities maintain the important role of integrating coursework into the residency model, supporting classroom supervision, and partnering with districts and schools to provide continual professional development and research support for the district, schools, and teachers. Because of this close partnership, productive relationships between districts and their university partners are central to the success of the residency model. Each partner has to be responsive and committed to supporting the learning and growth of teacher residents for the model to be effective.

The teacher residency model should be one part of a larger plan for the recruitment and retention of highly effective teachers. Because teacher residencies are, by design, localized and context-specific, residency cohort sizes are often relatively small. However, residents who are well prepared and stay in the local district reduce churn and thus later demand, thereby providing districts with a more long-lasting solution than hiring underprepared teachers who come and go. Although this model by itself cannot eliminate all teacher shortages, residencies can be part of a larger strategy that recognizes the elements that influence teacher recruitment and retention.



The teacher residency model should be one part of a larger plan for the recruitment and retention of highly effective teachers.

Finally, successful teacher residencies will need to develop a model that allows for a sustainable management of costs. The costs of running a residency generally fall into four major budget areas: upfront recruiting costs; preparation costs, including financial support to residents during their training year; induction costs; and the costs of running an effective program, including direct resident costs such as tuition and health care, mentoring and induction support, and general costs such as coordination and communication among participants and partners, and program evaluation.⁸¹ A mix of private philanthropy, district funds, and federal funds generally cover residency costs. New thinking is needed on embedding the funding of these programs in more stable, permanent funding streams, such as the governmental funds that support medical residencies.

Conclusion

The teacher residency model holds much promise to address the issues of recruitment and retention in high-needs districts and in subject area shortages, as well as creating systemic change and a building of the teaching profession, especially in the most challenging districts. Initial research is promising as to the impact residencies can have on increasing the diversity of the teaching force, improving retention of new teachers, and promoting gains in student learning. Residencies support the development of the profession by acknowledging that the complexity of teaching requires rigorous preparation in line with the high levels of skill and knowledge needed in the profession. Residencies also build professional capacity by providing professional learning and leadership opportunities for accomplished teachers in the field, as they support the growth and development of new teachers. These elements of strengthening the teaching profession can create long-term benefits for districts, schools, and, most importantly, the students they serve.

Endnotes

1. Coffman, A. N., and Patterson, R. (2014). *Teacher Residencies: Redefining Preparation Through Partnerships*. Washington, DC: National Education Association.
2. Podolsky, A., Kini, T., Bishop, J., and Darling-Hammond, L. (2016) *Recruiting and Retaining Excellent Educators: Research and Policies to Strengthen the Teaching Workforce*. Palo Alto, CA: The Learning Policy Institute.
3. Ronfeldt, M., Loeb, S., and Wyckoff, J. (2013). How Teacher Turnover Harms Student Achievement. *American Educational Research Journal*, 50(1), 4–36.
4. Darling-Hammond, L. (2010). *The Flat World and Education: How America’s Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press; Darling-Hammond, L. (2003). Keeping Good Teachers: Why It Matters, *What Leaders Can Do*. *Educational Leadership*, 60(8), 6–13.
5. Ingersoll, R. M., and Strong, M. (2011). The Impact of Induction and Mentoring Programs for Beginning Teachers: A Critical Review of the Research. *Review of Educational Research*, 81(2), 201–233.
6. Darling-Hammond (2003).
7. Ronfeldt, Loeb, and Wyckoff (2013).
8. Carroll, T. (2007). Policy Brief: The High Cost of Teacher Turnover. Washington, DC: National Commission on Teaching and America’s Future.
9. Ingersoll, R. M. (2004). Letters to the Next President: What We Can Do About the Real Crisis in Public Education. In C. Glickman (Ed.), *Letters to the Next President: What We Can Do About the Real Crisis in Public Education* (pp. 141–150).
10. There is a range of estimates for beginning teacher attrition, all of which have shortcomings. For example, one recent estimate using national longitudinal data put the attrition rate around 17%, finding 83% of beginning teachers still teaching at the end of their fifth year, including some who had left and re-entered [Gray, L., Taie, S., and O’Rear, I. (2015). *Public School Teacher Attrition and Mobility in the First Five Years: Results from the first through fifth waves of the 2007-2008 Beginning Teacher Longitudinal Study*. U.S. Department of Education.] However, the analysis omitted the large number of individuals who did not respond to the survey at various points during these years. In general, survey evidence finds that those who do not respond to such surveys are more likely to have left their position than to have continued teaching. For that reason, the 17% figure likely underestimates attrition by an unknown margin. Our own imputations to adjust these data based on the characteristics of non-respondents suggest that the attrition rate is likely at least 19%. Older estimates of attrition using national cross-sectional data suggested about a 30% attrition rate at the end of five years. [Darling-Hammond, L., and Sykes, G. (2003). Wanted: A national teacher supply policy for education: The right way to meet the “highly qualified teacher” challenge. *Education Policy Analysis Archives*, 11(33), 1–55.]
11. Ingersoll, R., Merrill, L., and May, H. (2014). *What are the effects of teacher education and preparation on beginning teacher attrition?* Research Report (#RR-82). Philadelphia, PA: Consortium for Policy Research in Education, University of Pennsylvania.
12. Ingersoll and Strong (2011).
13. Gatlin, D. (2009). A Pluralistic Approach to the Revitalization of Teacher Education. *Journal of Teacher Education*, 60(5), 469–477.
14. Klein, E. J., Taylor, M., Onore, C., Strom, K., and Abrams, L. (2013). Finding a third space in teacher education: Creating an urban teacher residency. *Teaching Education*, 24(1), 27–57; Zeichner, K. (2010). Rethinking the Connections Between Campus Courses and Field Experiences in College- and University-Based Teacher Education. *Journal of Teacher Education*, 61(1-2), 89–99.
15. Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning. (2010). *Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers*. Washington, DC: National Council for Accreditation of Teacher Education.

16. Silva, T., McKie, A., Knechtel, V., Gleason, P., and Makowsky, L. (2014). *Teaching Residency Programs: A Multisite Look at a New Model to Prepare Teachers for High-Need Schools*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute for Education Sciences; Jagla, V. (2009). Transforming Urban Schools: Lessons for America from an Urban Teacher Residency Program. *The International Journal of Learning*, 16(9), 41–48.
17. National Center for Teacher Residencies replaced the previous name of the organization, Urban Teacher Residency United (UTRU) in 2015.
18. National Center for Teacher Residencies. (n.d.). <http://nctresidencies.org/>.
19. Klein et al. (2013).
20. Jagla (2009).
21. Jagla (2009).
22. Berry, B. et al. (2008). *Creating and Sustaining Urban Teacher Residencies: A New Way to Recruit, Prepare, Develop, and Retain Effective Teachers in High-Needs Districts*. The Aspen Institute; Center for Teaching Quality. <https://www.aspeninstitute.org/publications/creating-sustaining-urban-teacher-residencies-new-way-recruit-prepare-retain-effective/>.
23. Silva et al. (2014).
24. Perlstein, L., Jerald, C., and Duffrin, E. (2014). *Building Effective Teacher Residencies*. Chicago, IL: Urban Teacher Residency United.
25. Perlstein et al. (2014).
26. Silva et al. (2014).
27. Teacher Quality Partnership grantees are required to provide a full school year of preservice clinical preparation to teacher candidates (equaling at least 30 weeks or 900 hours). The American Association of Colleges for Teacher Education (AACTE) recommends that states require a minimum of one semester or 450 hours (15 weeks at 30 hours per week) of clinical preparation, if not the full year. [American Association of Colleges for Teacher Education. (2012). *Where We Stand: Clinical Preparation of Teachers*. Washington, DC: AACTE; Silva et al. (2014).]
28. Berry et al. (2008).
29. Silva et al. (2014).
30. Silva et al. (2014).
31. Perlstein et al. (2014).
32. Perlstein et al. (2014).
33. Silva et al. (2014).
34. Perlstein et al. (2014).
35. Perlstein et al. (2014).
36. National Center for Teacher Residencies. (2016a). *2015 Network Impact Overview: National Center for Teacher Residencies*. Chicago, IL: National Center for Teacher Residencies.
37. Dockterman, D. (2014). *2010-15 Impact Surveys: Cohorts I-IV, Final Findings*. Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing, UCLA Graduate School of Education and Information Studies.
38. Gardiner, W. (2011). Mentoring in an Urban Teacher Residency: Mentors' Perceptions of Yearlong Placements. *The New Educator*, 7(2), 153–171.
39. Berry et al. (2008); Papay, J. P., West, M. R., Fullerton, J. B., and Kane, T. J. (2012). Does an Urban Teacher Residency Increase Student Achievement? Early Evidence From Boston. *Educational Evaluation and Policy Analysis*, 34(4), 413–434.
40. Dockterman (2014).

41. Dockterman (2014).
42. Abdal-Haqq, I. (1998). *Professional Development Schools: Weighing the Evidence*. Thousand Oaks, CA: Corwin Press, Inc. Trachtman, R. (1996). *The NCATE professional development school study: A survey of 28 PDS sites*. Washington, DC: National Council for Accreditation of Teacher Education; Darling-Hammond, L. (2005). Teaching as a Profession: Lessons in Teacher Preparation and Professional Development. *Phi Delta Kappan*, 87(3), 237–240.
43. Darling-Hammond (2005); Guadarrama, I., Ramsey, J., and Nath, J. (Eds.). (2002). *Forging Alliances in Community and Thought: Research in Professional Development Schools*. Greenwich, CT: Information Age Publishing, Inc.
44. Darling-Hammond, L., and Bransford, J. (Eds.). (2007). *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*. Jossey-Bass.
45. Solomon, J. (2009). The Boston Teacher Residency: District-Based Teacher Education. *Journal of Teacher Education*, 60(5), 478–488.
46. Solomon (2009).
47. Ingersoll and Strong (2011).
48. Urban Teacher Residency United. (n.d.). *Financially Sustainable Teacher Residencies: An Analysis Commissioned by Urban Teacher Residency United*. Chicago, IL: Urban Teacher Residency United.
49. Peter Williamson et al., Context as Content in Urban Teacher Education: Learning to Teach in and for San Francisco (in peer review).
50. Retention data are drawn from materials prepared by the SFUSD Human Resources Department as well as SFTR. Additional data on SFTR’s impact are drawn from <http://www.sfteacherresidency.org/impact/>, last visited on 1/2/16, including Urban Teacher Residency United, Measuring UTRU Network Program Impact, August 2015.
51. National Center for Teacher Residencies. (2016b). *NCTR Network Partner Report 2015-16*. Chicago, IL: National Center for Teacher Residencies.
52. Nineteen percent is the total percentage of teachers of color (non-white) who are new hires (first-time teachers). Twenty percent of total hires are teachers of color—this includes brand new, returning, and re-entry teachers. Eighteen percent of the total teacher workforce is teachers of color (non-white). Source: LPI analysis of the Schools and Staffing Surveys (SASS) Restricted Use Public School Teacher Data File, 2011-12
53. Perlstein et al. (2014).
54. Papay et al. (2012).
55. National Center for Teacher Residencies (2016b).
56. Silva et al. (2014).
57. National Center for Teacher Residencies (2016b).
58. Darling-Hammond and Sykes (2003); Ingersoll, R. M. (2003). *Is There Really a Teacher Shortage?* Center for the Study of Teaching and Policy, University of Washington and The Consortium for Policy Research in Education.
59. Silva, T., McKie, A., and Gleason, P. (2015). *New Findings on the Retention of Novice Teachers from Teaching Residency Programs*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. <https://ies.ed.gov/ncee/pubs/20154015/pdf/20154015.pdf>; Papay et al. (2012).
60. In Silva et al. (2015), the authors examined retention data for residents from 12 of the oldest and largest teacher residency programs (out of the 30 programs funded through a federal TQP grant). The final sample included 377 TRP teachers, including 219 in their first year of teaching in 2011-12 and 158 in their second year of teaching in 2011-12. The sample also included 376 non-TRP teachers: 180 in their first year of teaching and 196 in their second year of teaching. The difference in retention rates between residents and non-residents was significant at $p < .01$. However, as noted in the report, comparisons

between residents and other novice teachers do not represent estimates of the impact of residency programs on teacher retention.

61. Papay et al. (2012). Differences between residents and non-residents significant at $p < .001$.
62. Data for cohort that graduated from Tennessee preparation programs and Memphis Teacher Residency in 2009-10. Tennessee Higher Education Commission. (2014a). *2014 Report Card on the Effectiveness of Teacher Training Programs*. Tennessee Higher Education Commission, Tennessee Department of Education, State Board of Education.
63. Sloan, K. and Blazevski, J. (2015). "New Visions Hunter College Urban Teacher Residency: Measures of Success." Bloomington, IN: Rockman et al.
64. Retention data are drawn from materials prepared by the SFUSD Human Resources Department as well as SFTR.
65. Berry et al. (2008).
66. Berry et al. (2008).
67. Perlstein et al. (2014).
68. Perlstein et al. (2014).
69. *Newark-Montclair Urban Teacher Residency Year 4 (2012-13) Evaluation Report*. (2014). Montclair, NJ.
70. National Center for Teacher Residencies (2016b).
71. Sloan and Blazevski (2015).
72. Papay et al. (2012).
73. Tennessee Higher Education Commission. (2014b). Tennessee Teacher Preparation Report Card 2014 State Profile. https://www.tn.gov/assets/entities/thec/attachments/reportcard2014A_Tennessee_State_Profile.pdf.
74. American Statistical Association. (2014). *ASA Statement on Using Value-Added Models for Educational Assessment*. http://www.amstat.org/policy/pdfs/asa_vam_statement.pdf.
75. *Higher Education Opportunity Act*, Public Law 110-315 (2008).
76. Shen, Y., and Bibilos, C. (2015). *Clinical Preparation Policy Issues*. Chicago, IL, National Center for Teacher Residencies; U.S. Department of Education. (n.d.). Teacher Quality Partnership Grant Program.
77. Shen and Bibilos (2015).
78. Tennessee State Government. (2011). *Teacher and Principal Residency Grant Invests in Talent*. <http://www.tennessee.gov/news/30249>
79. Shen and Bibilos (2015).
80. Shen and Bibilos (2015).
81. Berry et al. (2008).

Appendix

Active Teacher Residency Programs in 2016 by State, City

State, City	Program Name	Partners	Teacher Quality Partnership Grant Recipient	National Center for Teacher Residencies Partner Program
AZ, Tempe	Integration to Prepare Teachers to Teach English Language Learners ¹	Arizona State University Board of Regents	X	
CA, Bakersfield	Growing Rural Opportunities (GRÖ STEM) Residency Program ²	California State University, Bakersfield Auxiliary for Sponsored Programs Administration	X	
CA, Carson	STEM Teachers in Advanced Residency, or STAR	California State University, Dominguez Hills	X	
CA, Chico	RiSE: Residency in Secondary Education	California State University, Chico		
CA, Fresno	Fresno Teacher Residency Program	Fresno Unified School District	X	
CA, Los Angeles	Los Angeles Urban Teacher Residency Program Transformation Initiative	Cal State L.A. University Auxiliary Services, Inc.	X	X
CA, Los Angeles	UCLA Impact: Urban Teacher Residency	Regents of the University of California, Los Angeles	X	
CA, Monterey Bay	El Camino Project	California State University, Monterey Bay		
CA, Oakland	Aspire Teacher Residency	Aspire Public Schools-University of the Pacific		X
CA, San Francisco	San Francisco Teacher Residency	San Francisco Unified School District-Stanford University-University of San Francisco-United Educators for San Francisco		X
CO, Aurora	NxtGEN Teacher Preparation: Closing the Achievement Gap in Colorado	University of Colorado, Denver	X	
CO, Denver	Colorado Boettcher Teacher Residency-Rural Expansion	Public Education & Business Coalition	X	X
CO, Denver	Denver Student Teacher Residency	Denver Public Schools-Metropolitan State University of Denver-University of Colorado, Denver		X
CO, Denver	Denver Teacher Residency	Denver District #1	X	X
DC, Washington	Capital Teaching Residency	KIPP DC		
DC, Washington	Center for Inspired Teaching	Center for Inspired Teaching-Trinity Washington University		X
DC, Washington	DC Teacher Residency	District of Columbia Public Schools-Urban Teachers		

State, City	Program Name	Partners	Teacher Quality Partnership Grant Recipient	National Center for Teacher Residencies Partner Program
FL, Jacksonville	Jacksonville Teacher Residency	Jacksonville Public Education Fund-Duval County Public Schools-University of North Florida		X
GA, Atlanta	Collaboration and Resources for Encouraging and Supporting Transformations in Education (CREST-Ed)	Georgia State University	X	
IL, Chicago	Chicago Teacher Residency	Academy for Urban School Leadership-DePaul University-National Louis University		
IL, Chicago	Chicago Urban Teacher Education Program	University of Chicago	X	X
IL, Chicago	Science Excellence through Residency	National Louis University	X	
IN, Indianapolis	STEM Teaching Residency with Dual Licensure in Special Education	Trustees of Indiana University	X	
KS, Wichita	Wichita Teacher Quality Partnership	Wichita State University	X	
KY, Bowling Green	GSKyTeach ³	Western Kentucky University	X	
MA, Boston	Boston Teacher Quality Network (Boston Teacher Residency)	Boston Plan for Excellence in the Public School Foundation	X	X
MA, Boston	The Boston Teacher Residency Partnership	Boston Plan for Excellence/Boston Teacher Residency	X	
MA, Newton	Newton Teacher Residency	Newton Public Schools-Lesley University		
MN, Minneapolis/Saint Paul	STEM Urban Teacher Residency	Twin Cities Teacher Collaborative		X
MN, Minneapolis	Minneapolis Residency Program ⁴	Minneapolis Public Schools-University of Minnesota		X
MN, Saint Paul	Saint Paul Public Schools Urban Teacher Residency (SUTR) ⁵	University of St. Thomas-Saint Paul Public Schools		X
MO, Kansas City	Kansas City Teacher Residency ⁶	Kansas City Area Public Schools and Charter Schools-Park University		X
NJ, Newark	The Newark-Montclair State University Teaching Residency Program	Montclair State University	X	
NY, Annandale-On-Hudson	Bard College Rural Teacher Residency Program	Bard College	X	
NY, New York	New York City Teaching Collaborative	New York City Department of Education-St. John's Graduate School of Education		X
NY, New York	New York City Urban Teacher Residency	New Visions for Public Schools-Hunter College	X	X

State, City	Program Name	Partners	Teacher Quality Partnership Grant Recipient	National Center for Teacher Residencies Partner Program
NY, New York	NYU Embedded MAT in Secondary Education	New York University		
NY, New York	Teacher Residency Partnership for Preparing and Supporting New Earth Science Teachers	American Museum of Natural History	X	
NY, New York	Teaching Residents at Teachers College, Columbia University	Teachers College, Columbia University	X	
OH, Cleveland	Cleveland Urban Teacher Residency	Breakthrough Schools-Ursuline College-John Carroll University		
PA, Philadelphia	Philadelphia Teacher Residency	Drexel University		
PA, Philadelphia	Temple University Residency Program (Temple Teacher Residency) ⁷	Temple University	X	X
TN, Chattanooga	Project Inspire	Public Education Foundation-Tennessee Tech University-Hamilton County Department of Education		X
TN, Martin	Teacher Preparation Reinvention for Improving Student Success (T-PROCESS)	The University of Tennessee at Martin	X	
TN, Memphis	Aspire Teacher Residency	Aspire Public Schools-University of the Pacific		X
TN, Memphis	Memphis Teacher Residency	Memphis Teacher Residency-Shelby County Public Schools-Union University		X
TX, Dallas	Dallas Teacher Residency	Dallas Teacher Residency-Texas A&M University-Commerce		
TX, Odessa	West Texas Teacher Training Residency (WT3) ⁸	College of Education, University of Texas of the Permian Basin		X
TX, Tyler	Texas Teacher Residency Program	University of Texas, Tyler		
VA, Norfolk	Teacher Immersion Residency	Old Dominion University		
VA, Richmond	Richmond Teacher Residency Program (RTR)	Virginia Commonwealth University	X	X

State, City	Program Name	Partners	Teacher Quality Partnership Grant Recipient	National Center for Teacher Residencies Partner Program
WA, Seattle	Seattle Teacher Residency	Alliance for Education-Seattle Public Schools-University of Washington-Seattle Education Association		X
WA, Toppenish	Heritage 105: Heritage University and ESD 105 Collaborative	Heritage University	X	

¹ Program is currently active but not accepting new applicants.

² Renamed to Kern Rural Teacher Residency.

³ Program is currently active but not accepting new applicants.

⁴ Program is currently in development.

⁵ Program is currently in development.

⁶ Program is currently in development.

⁷ Program is currently in development.

⁸ Program is currently in development.

Note: The following methods were employed to create the Appendix: All partner programs of the National Center for Teacher Residencies (NCTR) were included in this list as these programs must adhere to a rigorous set of NCTR standards to become partner programs. An analysis of Teacher Quality Partnership grant recipients generated a list of programs that self-identified themselves as residency programs. These programs were then examined to determine whether or not their design features included the key characteristics of residencies identified in this paper. In particular, we excluded programs that did not have a year-long clinical placement with a mentor teacher, financial incentives (in the form of a living stipend and/or tuition remission or reimbursement), and ongoing mentoring support for program graduates. We then excluded programs from this list that were no longer in operation due to the ending of the grant. Finally, we did a general Internet search of teacher residency programs. We again used the above listed criteria of key characteristics of residency programs to determine whether or not to include programs on the final list.

About the Authors

Roneeta Guha is a Senior Researcher who co-leads LPI's Educator Quality Team and manages several projects, including a forthcoming study on teacher preparation for deeper learning and the California Performance Assessment Collaborative. Prior to joining LPI, Guha was on staff at SRI International's Center for Education Policy, where for over a decade she led and conducted research and evaluation studies focused on educator quality, systemic district reform, career pathways, and charter schools.

Maria E. Hylér is a Senior Researcher on LPI's Educator Quality and Deeper Learning teams and is co-lead of a forthcoming study on teacher preparation for deeper learning. Hylér also represents the institute on several initiatives focused on teacher preparation, development, and leadership. Her work focuses on structures and systems that support student success, best practices for preparing teachers to teach students of diverse backgrounds, and preparing equity-centered educators.

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



1530 Page Mill Road, Suite 200
Palo Alto, CA 94304
p: 650.332.9797

1301 Connecticut Avenue, Suite 500
Washington, DC 20036
p: 202.830.0079
www.learningpolicyinstitute.org

The Learning Policy Institute conducts and communicates independent, high-quality research to improve education policy and practice. Working with policymakers, researchers, educators, community groups, and others, the Institute seeks to advance evidence-based policies that support empowering and equitable learning for each and every child. Nonprofit and nonpartisan, the Institute connects policymakers and stakeholders at the local, state, and federal levels with the evidence, ideas, and actions needed to strengthen the education system from preschool through college and career readiness.