

RESEARCH BRIEF: ADDRESSING TEACHER AND SUBSTITUTE SHORTAGES

Introduction

Teacher shortages present a significant challenge to K-12 districts and schools in numerous states across the country.¹ To support its member districts in addressing this challenge, Hanover Research (Hanover) presents the following research brief, which highlights national trends regarding the teacher pipeline and strategies for recruiting and retaining effective teachers.

Key Findings

- **National trends in the teacher workforce suggest ongoing shortages, though limited data and differences in shortage definitions lead to conflicting findings.** In a widely cited report published in 2016, the Learning Policy Institute estimated that a national teacher shortage began in 2012-13 and is projected to worsen through 2024-25. The Economic Policy Institute additionally finds that the teacher shortage problem increases in severity when considering teachers' credentials and qualifications.
- **Strategies for recruiting teachers include partnering with teacher preparation programs, adjusting hiring practices, and using financial incentives.** Alternative teacher preparation programs include teacher residencies, alternative certification programs, Grow-Your-Own programs, and early outreach programs. Districts should evaluate hiring timelines and practices to ensure that the recruitment process starts early and limit barriers to entry. Using financial incentives can also support teacher recruitment and may include salary schedule adjustments, salary enhancements, limited-duration incentives, training-related incentives, in-kind incentives, and retirement benefit waivers.
- **Substitute recruitment strategies parallel strategies for full-time teachers and include reviewing preparation and certification pathways and requirements, hiring initiatives, and financial incentives.** Districts may consider adjusting the criteria for substitute employment by reducing college credit requirements and not using qualifying exams. Hiring initiatives such as substitute job fairs and advertising campaigns can also enlarge substitute pools. Financial incentives such as higher compensation and additional benefits can improve recruitment; however, these incentives may not always prove effective as substitutes may apply for non-monetary reasons.
- **Districts should consider mentorship and professional development opportunities, school climate improvements, and financial incentives as retention strategies for both full-time teachers and substitutes.** Mentorship and induction programs for teachers provide opportunities for building teaching competencies and self-efficacy, which improve job satisfaction and commitment to the district. Similarly, promoting positive school climates supports teachers' satisfaction and improves retention. Influential factors in school climates include physical environments, school politics, cultural features, and instructional and curricular flexibility. Additional financial incentives may also improve teacher and substitute retention, though limited research is available to support the effectiveness of financial incentives for retaining new teachers.

Exploring National Trends

Teacher shortages are projected to occur across the United States as fewer individuals enter the teaching workforce and certified teachers leave the profession. According to the Economic Policy Institute's (EPI) first report in its 2019 series, "The Perfect Storm in the Teacher Labor Market," the problem of teacher shortages remains large, continues to grow, and has no indication of ending.² However, limited national data and conflicting definitions of what constitutes a teacher shortage complicate definitive assessments of the current status and recent trends in the teacher workforce.³

Defining teacher shortage as "the inability to staff vacancies at current wages with individuals qualified to teach in the fields needed," led researchers from the Learning Policy Institute (LPI) to study and predict national teacher trends.⁴ The resulting study and the EPI series (which uses the LPI definition) illustrate that the actual demand for new hires remained below the projected supply of new hires between 2005 and 2012. However, following the 2011-2012 academic year, estimates show projected demand steadily increasing and projected estimated supply steadily decreasing. Based on these data and projections, the teacher national shortage began in 2012 and continues to grow.⁵

Teacher shortages become more apparent when reviewing teachers' credentials. Fully understanding the teacher shortage problem requires one to look at new teachers' abilities to support current needs and current teachers' abilities to support needs and develop as educators.⁶ The following figure compares 2011-2012 and 2015-2016 teacher credentials using national data for non-charter public school teachers.

Changes in Teachers' Credentials and Qualifications

TEACHER BACKGROUND	2011-2012	2015-2016
Not fully certified	8.4%	8.8%
Did not take a traditional route into teaching	14.3%	17.1%
Inexperienced (5 years of experience or less)	20.3%	22.4%
Novice teacher (2 years of experience or less)	6.8%	9.4%
No educational background in subject of main assignment	31.1%	31.5%

Source: Economic Policy Institute⁷

As teachers leave their school, district, or the teaching profession because of age, attrition, turnover, etc., districts may struggle to fill positions. According to the EPI, between the 2008-2009 and 2015-2016 academic years, the number of education degrees earned decreased by about 15 percent, and the number of individuals who completed teacher preparation programs decreased by about 27 percent. As such, districts collectively must hire from a shrinking pool of traditionally qualified applicants.⁸

The following figure highlights seven trends in the teacher workforce compiled by a researcher at the University of Pennsylvania. These trends present clear indications of today's teacher workforce, though the first trend further illustrates how researchers analyze teacher supply differently, and national conclusions remain conflicting. The full report is available online [here](#).⁹






Current Teacher Workforce Trends

A leap in numbers	Between 1987-1988 and 2015-2016, the number of teachers in public, private, and charter schools increased by more than three times the rate of student enrollment increases.
Leaving in high numbers	Forty-four percent of new teachers leave within five years.
A younger teaching force	Public school teachers have gotten younger. In 2007-2008, the modal or most common teacher was 55 years old. In 2015-2016, the modal age ranged from mid-30s to mid-40s.
Decline in experience	The modal teacher has one to three years of experience, a sharp decline from the 15 years of experience the modal teacher had in 1987-1988.
Fewer men than ever	Over 76 percent of public school teachers are women, high even for a historically female-dominated profession.
Minorities being churned out	While there remains a parity gap (51 percent of public school students are minorities, and only about 20 percent of their teachers are), there has been a dramatic surge in minority teacher hires. However, these teachers are among the most likely to leave the profession.
Instability concentrated	About half of all teacher turnover takes place in 25 percent of public schools. High-poverty, high-minority, urban, and rural public schools have among the highest rates of turnover.

Source: University of Pennsylvania Graduate School of Education¹⁰

Overall trends in the teacher workforce may be driven by a variety of factors, as listed in the following figure.

Explanations for Teacher Shortages

	Women today have greater options in employment than ever before.
	There is more occupational choice.
	The perception of teaching by the American public and teachers themselves is declining.
	The pipeline of new teacher candidates is dwindling.
	The way job seekers look for jobs has radically changed in the last five years, including an increased focus on digital communication and marketing efforts by employers.

Source: Insight Education Group¹¹

Correspondingly, superintendents highlight concerns regarding the teacher pipeline and challenges with recruitment and retention. Results from a 2018 Gallup survey of K-12 superintendents throughout the United States finds that 83 percent of survey participants struggle with teacher recruitment and retention. Challenges with teacher pipelines impact superintendents in all geographic areas, but responses show rural superintendents, followed by town, city, and suburban superintendents struggle most.¹²

Recruiting Effective Teachers and Substitutes

The following subsections highlight strategies and best practices for recruiting effective teachers through teacher preparation, marketing, and financial approaches.

Teacher Preparation

Districts can influence the type and quality of teacher education programs by building relationships with institutions of higher education or other teacher preparation programs. By partnering with local universities or alternative teacher preparation programs, districts can help prepare teachers to suit their specific district- and school-level needs.¹³

For example, districts can use **teacher residencies** to recruit teachers trained for their specific needs and shortage areas.¹⁴ The figure below illustrates seven characteristics of high-quality teacher residency programs.

Characteristics of High-Quality Teacher Residencies

DISTRICT-UNIVERSITY PARTNERSHIPS

- Teacher residencies place candidates in specific districts to fulfill the district’s needs.
- Residents commit to teaching in the local school district after the program ends.
- Districts and universities codesign programs to ensure that residents get to know the students and families in the communities in which they will be teaching and receive rigorous preparation for teaching in those communities and schools.

CANDIDATE RECRUITMENT AND SELECTION

- District and preparation programs partner in the recruitment and selection of the residents to ensure that residents meet local hiring needs.
- 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, and are highly selective.

CLINICAL EXPERIENCE

- For at least one academic year, candidates spend four to five days per week in a classroom with an experienced and trained mentor teacher and gradually take on more responsibilities over the year.
- Most residents receive at least 900 hours of pre-service clinical preparation, while participants in typical preparation programs receive between 400 and 600 hours.

COURSEWORK

- Residency coursework integrates with clinical experiences.
- Experienced teachers in districts sometimes design and teach courses, though often, university faculty members who teach courses engage in local schools and previously taught there.
- School and university faculty often co-teach courses.
- 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 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.

COHORTS PLACED IN TEACHING SCHOOLS

- Programs may cluster participants in university courses and school sites to create a stronger support network and foster collaboration among new and experienced teachers.
- Faculty members from the school and university work together to develop a curriculum, improve instruction, and undertake school reforms—making the entire school a site for learning and feedback for adults and students alike.

FINANCIAL SUPPORT INCENTIVES

- Teacher residencies offer financial incentives that attract and retain high-quality candidates with diverse backgrounds and experiences.
- Incentives may include living stipends, student loan forgiveness, and tuition remittance in exchange for residents’ commitment to teaching in the district for a specified period—typically three to five years.

Source: American Educator¹⁵

Teacher residency programs help districts address specific recruitment goals and needs. Goals surrounding teacher recruitment can include diversifying the local teacher workforce and fully staffing high-need schools and subjects. Notably, teacher residency graduates demonstrate within-district retention rates of about 80 to 90 percent three years after graduation and upwards of 70 percent after five years.¹⁶

A key component of building a partnership with a teacher preparation program includes **providing information about**

what future teachers should expect, both in the teaching profession in general and working in the district specifically. In a survey from the Harvard University Education Policy Group, undergraduate students who strongly consider teaching as a post-graduate career expressed concerns primarily regarding salary, classroom management, and teacher efficacy. Additionally, 73 percent of respondents considered a teaching career before their third year of undergraduate education—when preparation programs begin recruitment outreach.¹⁷ Districts should consider the following teacher recruitment strategies to mitigate concerns expressed by potential teaching students and, therefore, improve recruitment:¹⁸

- Communicate accurate information about teacher salaries;
- Address concerns about classroom management;
- Sell potential student impact; and
- Begin recruitment early.

Additionally, districts should also consider non-traditional methods for developing a well-qualified pipeline of teachers who will likely remain in the district. The Center for American Progress identifies several non-traditional program types used by districts across the United States that may support districts to improve recruitment, including of more diverse candidates. For example, early outreach programs focus on promoting teaching as a career option to current secondary students. These programs often provide coursework and internship opportunities to interested high school students through district-university partnerships.¹⁹ Grow-Your-Own programs often go further to include local high school and college graduates.²⁰ The following figure provides descriptions of alternative recruitment paths highlighted by the Center for American Progress.

Alternative Recruitment Partnership Options

PROGRAM	DESCRIPTION
Alternative certification programs	<p>Examples of alternative certification programs include:</p> <ul style="list-style-type: none"> ▪ Alternative certification programs such as Teach for America; ▪ District-led programs such as the Boston Teacher Residency program; and ▪ Local programs run by outside providers such as the New York Teaching Fellows/The New Teacher Project. <p>Alternative certification programs often focus on recruiting teachers to hard-to-staff schools.</p>
Grow-Your-Own programs	<p>In a “Grow-Your-Own” program, a district partners with an institution of higher education to prepare non-certified paraprofessionals, school staff, or other members of the community. By drawing from the school community, districts aim to develop teachers likely to match the racial, ethnic, and economic characteristics of the students and to retain them longer.</p>

PROGRAM	DESCRIPTION
Early outreach programs	<p>Early outreach programs attempt to attract high school students into the profession before they enter college. Early outreach programs exist in urban high schools across the country and can provide a direct pathway from high school into teaching. Minority high school students have an opportunity to develop positive feelings about teaching through these programs and may receive financial support through college if they commit to becoming a teacher. A disadvantage of early outreach programs includes recruiting very young people into teaching and inadequately identifying participants with the skills, motivation, and attitude to be successful teachers.</p>

Source: Center for American Progress²¹

Substitute Teachers

Reassessing education and preparation requirements for substitutes may improve substitute candidate pools. Changes may include reducing college credit requirements and not using qualifying exams.²² In some cases, districts may only require a high school diploma.²³ For example, Sarasota County Schools, located in Sarasota, Florida, eliminated teaching certificates as a requirement for substitutes in 2016. District leaders chose this solution to ensure coverage while becoming more aligned with other districts in the state, which do not require teaching certificates.²⁴

Hiring Initiatives

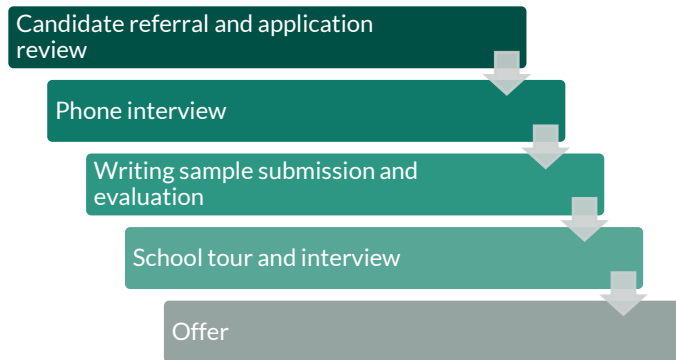
Districts must implement strategic hiring practices for teacher recruitment and carefully consider hiring timelines when recruiting the highest quality candidates. Starting the hiring process early allows schools to gather as much information as possible on a candidate and can prevent delays in teacher placement.²⁵ Districts can take the following steps to ensure timely hiring of highly qualified teachers:²⁶

- **Strengthen hiring practices** to ensure leaders make decisions as early as possible with the best candidate pool and using the best information possible. Some high-performing schools and districts invest substantial time in a multi-step hiring process that allows the school staff and candidate to assess their fit based on extensive information. Process components may include teaching demonstrations and school visits in which the candidate meets other teachers and staff;
- **Revise timelines for voluntary transfers or resignations** so that hiring processes can take place as early as possible—ideally in the spring of the prior school year. States and districts can implement incentives for teachers to submit their intent to resign or retire earlier in the school year and require that the voluntary transfer process conclude earlier; and
- **Reduce unnecessary barriers to entry** for veteran teachers moving from other states and districts.

Districts can offer salaries commensurate with experience so that veteran teachers who want to transfer into the district do not lose salary credit.

Additionally, districts should implement a comprehensive selection process, for example, as outlined below.²⁷

Sample Teacher Selection Process



Source: *The New Teacher Project*²⁸

Substitute Teachers

Districts should adjust hiring strategies to advertise substitute positions more effectively. Increasing awareness of open positions and allocating more resources towards recruiting may support improved hiring outcomes. The American Association of School Administrators (AASA), recommends aggressive recruitment practices, such as “targeted advertising coupled with job fairs co-sponsored by colleges and universities, parent-teacher organizations and educational services centers.”²⁹

For example, Baltimore City Public Schools reimagined their substitute recruitment strategy and hosted a substitute job fair in addition to its full-time teacher job fair. Through this new fair and a “refer a friend” campaign, the district hired an additional 150 substitutes.³⁰

STEDI.org, an organization that supports students taught by substitutes and districts’ management of substitutes, provides three additional hiring best practices:³¹

- Send home a note in the district newsletter to parents encouraging them to become a substitute teacher;
- Ask permanent teachers to refer a friend; and
- Coordinate with your local job placement agency.

Financial Incentives

Establishing early-career salaries that can compete with other professions constitutes “the most important thing school systems can do to recruit more talented teachers,” according to TNTP (formerly known as The New Teacher Project).³² Therefore, to attract and retain early-career teachers, districts should consider:³³

- Benchmarking initial salaries to be competitive with other nearby districts and professions;

- Increasing effective teachers’ salaries quickly during the first five years; and
- Vesting recruitment bonuses for new teachers over five years.

As indicated, financial incentives go beyond initial salaries to include a range of small, one-time bonuses and broader compensation changes.³⁴ The figure to the right highlights different types of financial incentives that districts can use to improve teacher recruitment and retention, such as salary schedule modifications, salary enhancements, and other incentives.

Types of Economic Incentive Policies

INCENTIVE CATEGORY	EXAMPLE POLICY TYPES
Salary Schedule Modifications	<ul style="list-style-type: none"> ▪ State-mandated minimum salary levels ▪ Across-the-board salary increases ▪ Alternative salary schedules ▪ “Frontloaded” or “backloaded” salary schedules
Salary Enhancements	<ul style="list-style-type: none"> ▪ Salary credits ▪ Additional pay for teaching in geographic- or subject-shortage areas ▪ Additional pay for certifications or credentials ▪ Additional pay for extra responsibilities ▪ Tax waivers and credits ▪ Transportation subsidies
Limited Duration Incentives	<ul style="list-style-type: none"> ▪ Signing bonuses ▪ Relocation incentives ▪ Credential or certification bonuses ▪ Performance-based rewards ▪ Loan forgiveness ▪ Homeownership assistance
Education- And Training-Related Incentives	<ul style="list-style-type: none"> ▪ Tuition subsidies and remission ▪ Pre-service teacher scholarships and stipends ▪ Alternative routes to teacher certification ▪ Tuition tax credits
In-Kind Incentives	<ul style="list-style-type: none"> ▪ Housing assistance ▪ Subsidized meals ▪ Access to local amenities
Retirement Benefit Waivers	<ul style="list-style-type: none"> ▪ Return-to-work policies ▪ Deferred retirement

Source: *Educational Administration Quarterly*³⁵

Substitute Teachers

Long-term financial incentives support substitute recruitment because these incentives ensure stability, reliable teaching pools, and quality substitutes. When substitutes agree to a long-term financial commitment, districts know that a specific school has coverage for a specific period, therefore sustaining a pool of substitutes from which the district can draw. Additionally, by signing long-term financial agreements, districts improve the likelihood of hiring high-quality substitutes “since substitute teachers will need to teach at a level where they will be the first ones reselected for future days of substitute teaching.”³⁶

However, substitutes may not necessarily seek a substitute position for financial compensation. According to a human resources administrator from Northside Independent School District, located in San Antonio, Texas, “[w]hat substitute teachers need most—more even than salary increases—is a sense of well-earned dignity.”³⁷

Retaining Effective Teachers and Substitutes

The following subsections present strategies and best practices for retaining effective teachers through financial incentives, professional development opportunities, and school climate improvements.

Mentorship and Development Opportunities

Mentorship and induction programs strongly influence retention, competency-building, and self-efficacy.³⁸ For example, results of a study by the U.S. Department of Education on teacher attrition in the first five years of teaching show that “[i]n each follow-up year, the percentage of beginning teachers who were currently teaching was larger among those who were assigned a first-year mentor than among those not assigned a first year mentor.”³⁹

Mentorship and induction programs can increase new teachers’ levels of job satisfaction and commitment. Furthermore, these programs can improve teachers’ classroom and behavior management, lesson plan development, and activity adjustment.⁴⁰ Characteristics of effective mentorship programs include:⁴¹





- **Mentor teachers** who are highly qualified and effective leaders and advocates;
- **Clear goals** for what information mentors should share with new teachers;
- **Professional development** for mentors in the field of educational leadership;
- Opportunities for mentors to help new teachers develop **long-term professional goals**; and
- Opportunities for mentors to help new teachers **develop classroom management strategies**.

Induction programs include a variety of practices, activities, and supports. The most comprehensive induction programs involve “working with a mentor and having regular supportive communication with one’s principal, participation in a seminar for beginning teachers, common planning time with other teachers in the same subject, a reduced course load, and assistance from a classroom aide.”⁴²

Substitute Teachers

Providing professional development and training opportunities can improve substitutes’ sense of self-efficacy and lower anxiety regarding teaching ability. These improvements may then make substitute teaching more enticing for individuals who would otherwise hesitate to apply to or remain in a district. Training opportunities should provide new substitutes with the information and skills presented in the following figure.

Benefits of Substitute Professional Development

	Substitutes develop classroom management skills
	Substitutes learn about supplemental activities
	Substitutes discover teaching strategies
	Substitutes understand how their appointed school, its classrooms, and the district operate




Source: SubJournal and Swing Education⁴³

For example, San Bernardino City Unified School District (San Bernardino) experienced substitute shortages in as many as 100 classrooms at a time in 2015. To combat substitute shortages, San Bernardino implemented a series of three professional development sessions throughout the year and a two-day onboarding process, which included training on the following topics:⁴⁴

- Social-emotional learning;
- Restorative-justice practices;
- Classroom management; and
- De-escalation techniques.

Furthermore, the district simplified its hiring process, ensured that substitutes earn respect by calling substitutes guest educators and implementing Substitute Teacher Appreciation Week, and hired a full-time, “resident,” guest educator.⁴⁵ With these development opportunities and additional changes, San Bernardino experienced the outcomes shown in the following figure.

Impact of Substitute Initiatives in San Bernardino








	The substitute pool increased from 700 to 1,200
	The daily fill rate increased from 95% to 99%
	The number of full-time offers extended in two years equaled 125

Source: WeAreTeachers⁴⁶

School Climate Practices

Broadly, districts and schools should implement strategies to improve overall workplace environment and climate, factors which are linked with teacher retention.⁴⁷ The figure on the following page describes elements that contribute to school working conditions, including physical features, organizational structures, and a variety of socio-emotional and cultural features.

Factors Contributing to Working Conditions

	The physical features of buildings, equipment, and resources, which serve as a platform for teachers' work
	The organizational structures that define teachers' formal positions and relationships with others in the school, such as lines of authority, workload, autonomy, and supervisory arrangements
	The sociological features that shape how teachers experience their work, including their roles, status, and the characteristics of their students and peers
	The political features of their organization, such as whether teachers have opportunities to participate in important decisions
	The cultural features of the school as a workplace that influence teachers' interpretation of what they do and their commitment, such as values, traditions, and norms
	The psychological features of the environment that may sustain or deplete them personally, such as the meaningfulness of what they do day to day or the opportunities they find for learning and growth
	The instructional features , such as curriculum and testing policies, that may enhance or constrain what teachers can teach

Source: Carnegie Foundation for the Advancement of Teaching⁴⁸

Improving working conditions and school culture can have a more significant effect on retention than financial incentives. A survey of National Board-certified teachers shows that "factors such as strong principal leadership, a collegial staff with a shared teaching philosophy, adequate resources necessary to teach, and a supportive and active parent community were far more powerful determinants" than financial incentives.⁴⁹ Similarly, a 2010 McKinsey & Company survey collected information from teachers who

graduated in the top third of their class. Results show that participants valued an improved working environment more than a salary increase when considering a job in a high-needs school. These teachers "valued excellent school leadership slightly" more than doubling their maximum salary from \$70,000 to \$150,000, and more than double the number of teachers "would teach in a high-needs school with a good working environment than would do so for double the salary."⁵⁰ The following figure summarizes the National Education Association's best practices in school workplace conditions to retain teachers.

Best Practices for Workplace Conditions

WORKING CONDITION	BEST PRACTICE
Teaching assignments	Appropriate teaching assignments; fair and manageable teaching load and class size
Working relationships among teachers	Working collaboratively with colleagues
Support for new teachers	Ongoing observation of, interaction with, and advice from experienced colleagues
Support for students	Collective teacher responsibility for student achievement, comprehensive student support services, and school-family-community partnerships
Curricular support	Complete, aligned, and flexible curricula
Resources and materials	Enough resources and materials; teacher stipends for extras
Assessment	Standardized tests as one part of a comprehensive assessment strategy
Professional development	Coherent, job-embedded assistance that meets individual teachers' instructional needs
Professional influence and career growth	Progressively expanding influence and increasing opportunities for career growth
Facilities	Safe, well-maintained, well-equipped facilities for all schools
Principal's leadership	Actively brokers workplace conditions; encourages teacher interdependence and collective work

Source: National Education Association⁵¹

Substitute Teachers

Fostering a supportive school climate positively impacts substitute retention and benefits both substitutes and their students as well.⁵² Substitutes "often feel ignored, neglected and treated with indifference by some staff members," which negatively impacts working conditions and retention.⁵³ Districts can encourage the following practices to prevent such feelings:⁵⁴

- Greetings in the hallways;
- Introductions as a "guest teacher" at flag salute or in morning announcements;

- Invitations to the staff room at lunch;
- Engaging substitutes in conversations at recess and lunch;
- Offering support;
- Providing information about school procedures; and
- Providing necessary supplies and equipment for assignments.

For example, Alhambra School District (ASD) in Phoenix Arizona ensures that substitutes receive respect and work in an encouraging atmosphere. Prioritizing substitute support and school climate expanded the district's pool of substitutes and improved workplace and learning conditions. ASD's specific strategies include:⁵⁵

- Referring to substitutes as "guest teachers" districtwide. ASD only refers to substitutes in advertisements as the outside public is not familiar with the term;
- All guest teachers receiving identification badges and packets when they arrive at their assigned schools. Whenever possible, a principal escorts the guest teacher to his or her classroom and answers questions;
- The principal routinely visiting every classroom with a guest teacher twice a day. These visits help ensure positive student behavior and support for the guest teacher; and
- Having all certified district office administrators, including the superintendent, substitute a minimum of one day per year. The receiving school and teacher do not know when or where these individuals will be assigned. This strategy led to a remarkable difference in the quality of guest teacher lesson plans. It also generated positive feelings by staff toward administration. Staff members feel that by having administrators in the classroom, they become more aware of changing demographics and of challenges teachers face every day.

Financial Incentives

While many districts use financial incentives, the available literature on their effectiveness in improving teacher retention shows mixed results. A 2006 National Bureau of Economic Research (NBER) report analyzes a teacher incentive program implemented in North Carolina from 2001-2003. The state-led program awarded an annual bonus of \$1,800 to certified math, science, and special education teachers working in high poverty or academically failing public secondary schools. Researchers find that the program decreased turnover rates by 12 percent, with rate variations suggesting opportunities to target specific subject areas or levels and schools with improved communication around the incentive. However, the government "ended the program even before the first evaluation of the program was complete," so further study could not occur.⁵⁶

Alternatively, a researcher at the Center for Education Policy Analysis studied whether a 2008 San Francisco

Unified School District policy affected teacher retention. The policy offered compensation increases for early career teachers. Hough notes that the rate of *overall* teacher retention increased in the school district after increasing compensation. However, this may have resulted from changes in the economy as early career teachers targeted with the increased salary did not appear to have better retention rates compared to other teachers.⁵⁷

Substitute Teachers

Providing substitutes with **financial compensation may support retention and improve education, as substitutes remain in the school system and can develop as educators throughout their employment.** Additionally, supplementing long-term financial compensation with benefits can encourage substitutes to stay with a district longer. Potential benefits with monetary value include:⁵⁸

- Healthcare insurance and prescription drug coverage;
- Life insurance coverage;
- Retirement savings plan;
- Short-term disability plan;
- Pre-paid lunch from the school cafeteria;
- Transportation reimbursement;
- On-site childcare;
- Inclusion in professional development workshops;
- Tuition reimbursement; and
- Inclusion in employee discount programs.

Appendix: State-Level Strategies for Addressing the Teacher Shortage

The following figure highlights a series of policies and practices identified by the LPI that states may implement to mitigate teacher shortages while prioritizing student learning and the recruitment and retention of high-quality teachers.

State-Level Strategies for Addressing Teacher Shortages	
Improve teacher preparation and reduce costs to enter the profession	
1.	Provide service scholarships and loan forgiveness programs to attract prospective teachers to the fields and locations where they are needed most.
2.	Develop teacher residencies, which have been successful in recruiting talented candidates into high-need fields to work as paid apprentices to skilled expert teachers.
3.	Create local pipelines into the profession, such as high school career pathways and "Grow Your Own" models, that recruit talented individuals from the community and support them in training to become teachers.
Strengthen hiring practices and personnel management	
4.	Set timelines and provide incentives for earlier budget decisions so that hiring processes can begin as early as possible. States can implement incentives to encourage state legislatures to pass budgets on time and teachers to declare their intent to resign or retire earlier in the school year.
5.	Develop systems to monitor teacher supply, demand, and turnover so that incentives can be put in place to recruit and prepare teachers for the fields and locations where needed, and so that high attrition rates can be examined and addressed.
6.	Reduce unnecessary barriers to entry for veteran teachers moving from other states by creating mechanisms such as cross-state pensions and portable benefit plans; developing reciprocity agreements with other states to attract mobile, out-of-state teachers; and investing in the design and implementation of online hiring platforms where teachers can easily identify the steps necessary to be hired in the state.
Provide quality mentoring and induction for beginning teachers	
7.	Invest in high-quality induction and mentoring programs that reduce beginning teacher attrition and increase their competence and effectiveness, leveraging ESSA Title II dollars.
Improve teachers' working conditions	
8.	Invest in the development of high-quality principals who learn to create productive, collaborative work settings important to retaining teachers by establishing strong preparation standards and investing in principal preparation programs that meet these high standards. Resources include ESSA's School Leader Recruitment and Support Program, which authorizes competitive grants to recruit and train principals for high-need schools, and ESSA's Title II optional 3% set aside to support principal and school leader training.
9.	Survey teachers to assess the quality of the teaching and learning environment and to guide improvements.
10.	Incentivize professional development strategies and the redesign of schools to foster greater collaboration.
Increase teacher compensation	
11.	Increase teacher salaries in schools and communities where salaries are not able to support a middle-class lifestyle and create salary incentives for accomplishments such as National Board Certification or taking on additional responsibilities.
12.	Use federal levers in ESSA to provide low-income schools and districts with additional resources to attract and retain high-quality teachers.
13.	Increase teachers' overall compensation by offering housing incentives, such as money for rent, relocation, and down-payment assistance as well as discounted homes and subsidized teacher housing. States also can fund research on how these types of creative compensation structures impact teacher recruitment and retention.

Source: LPI⁵⁹

Caveat

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Endnotes

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