

Addressing the Inequitable Distribution of Teachers: What It Will Take to Get Qualified, Effective Teachers in All Communities

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About this Brief

Students of color in low-income schools are 3 to 10 times more likely to have unqualified teachers than students in predominantly White schools. These disparities in teacher distribution matter greatly: Research consistently shows that teacher quality is one of the most important variables for student success and that teachers with stronger qualifications produce higher student achievement.

This policy brief, which summarizes a research paper written by the authors for the Center for American Progress, examines the sources of inequitable distributions of teachers. It examines how disparities in school funding and teacher salaries are related to differentials in teacher quality. It draws lessons from successful reforms to describe how policymakers can attract and retain high quality teachers in all communities.

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By Frank Adamson and Linda Darling-Hammond

The inequitable distribution of well-qualified teachers in the United States has received growing public attention. By every measure of qualifications—certification, subject matter background, pedagogical training, selectivity of college attended, test scores, or experience—less qualified teachers tend to serve in schools with greater numbers of low-income and minority students. Studies in state after state have found that students of color in low-income schools are 3 to 10 times more likely to have unqualified teachers than students in predominantly White schools.

Indeed, because of public attention to these disparities, Congress included a provision in the No Child Left Behind Act of 2001 that states should ensure that all students have access to “highly qualified teachers,” defined as teachers with full certification and demonstrated competence in their subject matter field(s). Yet, despite a decade of attention, the problem is far from solved. Today, dozens of active state school-finance lawsuits across the country cite disparities in rich and poor children’s access to well-qualified teachers as a critical element of inequality.

These disparities in teacher distribution matter greatly: Research consistently shows that teacher quality is one of the most important variables for student success and that teachers with stronger qualifications (academic ability, strong content knowledge, full preparation before entry, certification in the field taught, and experience) produce higher student achievement.

Given the importance of teacher quality, how can we attract and retain high quality teachers in all school districts in the country?

This policy brief examines this question by looking at the relationship between the distribution of educational funding, teacher salaries, and teacher quality across school districts in New York and California; both large, diverse states with significant low-income and minority populations. It further analyzes how inequalities in these areas underpin disparities in achievement between more- and less-advantaged students. Finally, it outlines strategies for recruiting qualified and effective teachers to high-need schools and concludes with implications for state and federal policy that may, finally, resolve this dilemma that has, for so long, reinforced the achievement gap.

How Unequal Are School Resources?

While the world’s highest-achieving nations fund schools equally and offer comparable salaries to teachers across schools, the distribution of education resources in the United States is very uneven, both within and across states. The highest-

spending districts in the nation spend about 10 times more than the lowest-spending ones. The highest-spending state in the nation (Vermont) spends nearly three times more per pupil (at \$17,552) than the lowest-spending state (Utah, at \$6,586).

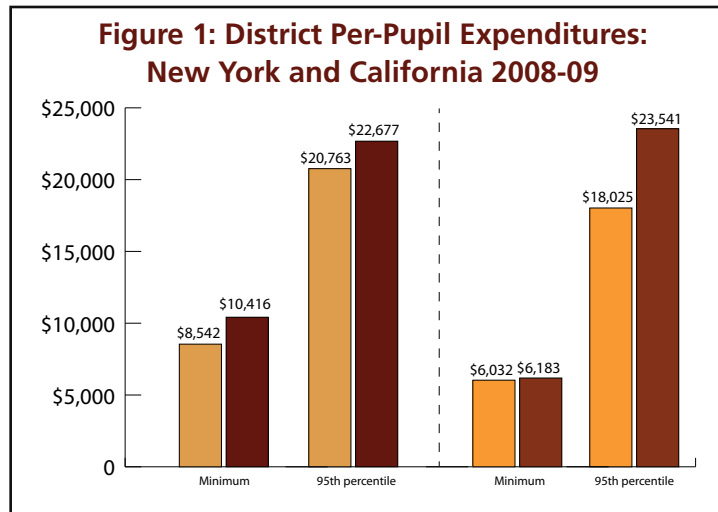
Funding disparities might not undermine equal educational opportunity if the differences were largely a function of pupil needs or if they appropriately reflected cost-of-living differentials. As it turns out, however, differentials do not tend to favor districts serving the highest need students, and they persist after cost-of-living differences and pupil needs are taken into account.

These disparities are obvious in both California and New York. California is one of the lowest-spending states in the nation, especially after accounting for the state's high cost-of-living, while New York is one of the highest-spending. However, both have wide variations in per pupil spending.

In California in 2008-09, the range of instructional expenditures exceeded a 3-to-1 ratio between low- and high-spending districts. When spending is adjusted for wage differentials—a proxy for cost-of-living differences—the gap is even wider, ranging from about \$6,100 to \$23,500 per pupil—a ratio of nearly 4 to 1.

These disparities appear even when the very highest-spending districts are excluded from the analysis (these districts are often small, sparsely populated, or otherwise unusual).

Although New York has experienced some equalization since the 2003 school finance lawsuit, *Campaign for Fiscal Equity v. State of New York*, very substantial inequalities persist. In 2008-09, districts' per-pupil expenditures ranged from \$8,500 to \$20,700 at the 95th percentile (and over \$54,000 at the top of the range). Even adjusted for comparable wage differences, the



range is equally large: from about \$10,400 per pupil at the bottom of the distribution to \$22,700 at the 95th percentile (and more than \$59,000 at the top) (see Figure 1).

Teacher Salary Disparities in California and New York

Clearly, these disparities lead to differentials in salaries and working conditions for teachers—and to advantages

for some districts and disadvantages for other districts in hiring and retaining high-quality educators.

In California, salaries for comparably educated and experienced teachers varied by more than 2 to 1 in 2009 and the differential increased after labor market adjustments. For example, a teacher with 10 years of experience and a bachelor's degree plus 60 additional education credits (about the median point on the salary schedule for teachers), could earn from \$42,000 in one district to over \$100,000 in another. Adjusting salaries for cost differences, salaries for this teacher still ranged from \$41,000 to over \$117,000 across the state.

Teachers' wages vary considerably across school districts even within the same county or labor market. In the San Francisco Bay Area (including San Francisco city and Alameda and San Mateo counties—the two closest, most populous counties within easy commuting range of San Francisco by both car and public transportation), average salaries range from about \$55,000 in Oakland (Alameda County), which serves a majority of low-income students of color, to about \$90,000 in wealthy, predominantly White Portola Valley (San Mateo County), home of many Silicon Valley venture capitalists (see Figure 2).

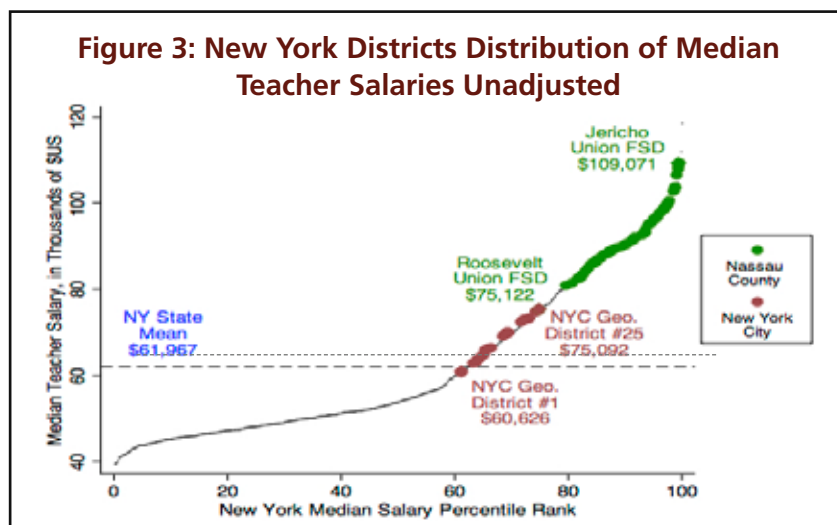
In New York, even excluding districts at the very low and high end of the range (districts below the 5th and above the 95th percentiles), beginning teacher salaries range from \$32,370 to \$61,338, and median salaries range from \$43,900 to \$95,786, a more than 2-to-1 ratio. The disparities remain large even after adjusting for labor market differences.

As in California, salary disparities in New York are substantial even within a single labor market, illustrating the choices teachers must make when they decide where to teach. As Figure 3 shows, median salaries for districts in Nassau County (the nearest county to the east of New York City, on Long Island), while themselves disparate, are significantly higher than New York City salaries, right next door. In fact, the disparity is so great that median salaries in Nassau at the lowest end of the scale are still significantly higher than the highest median salaries of the local New York City districts.

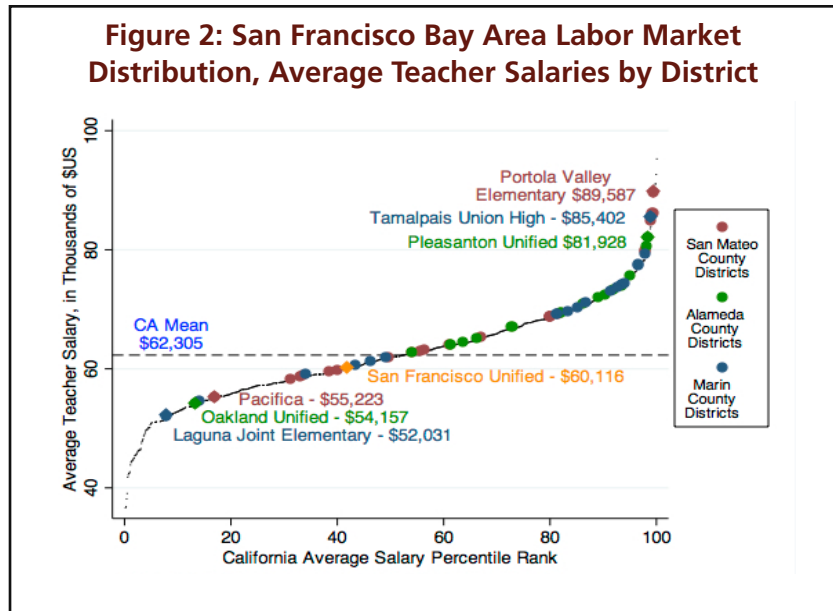
Within Nassau County, the lowest median salaries are paid in Roosevelt Union School District—one of the closest districts to New York City—which serves 100 percent minority students. The highest salaries are paid in suburban districts such as Jericho Union, a predominantly White district with less than 1 percent of students living in poverty. The same differentials exist between New York City and affluent Westchester County, its neighbor to the north.

Teacher Quality Differences in California and New York

Not surprisingly, the districts offering the lowest salaries serve greater proportions of minority and poor students than those offering higher salaries.



Source: *New York State School Report Card, 2008-09*

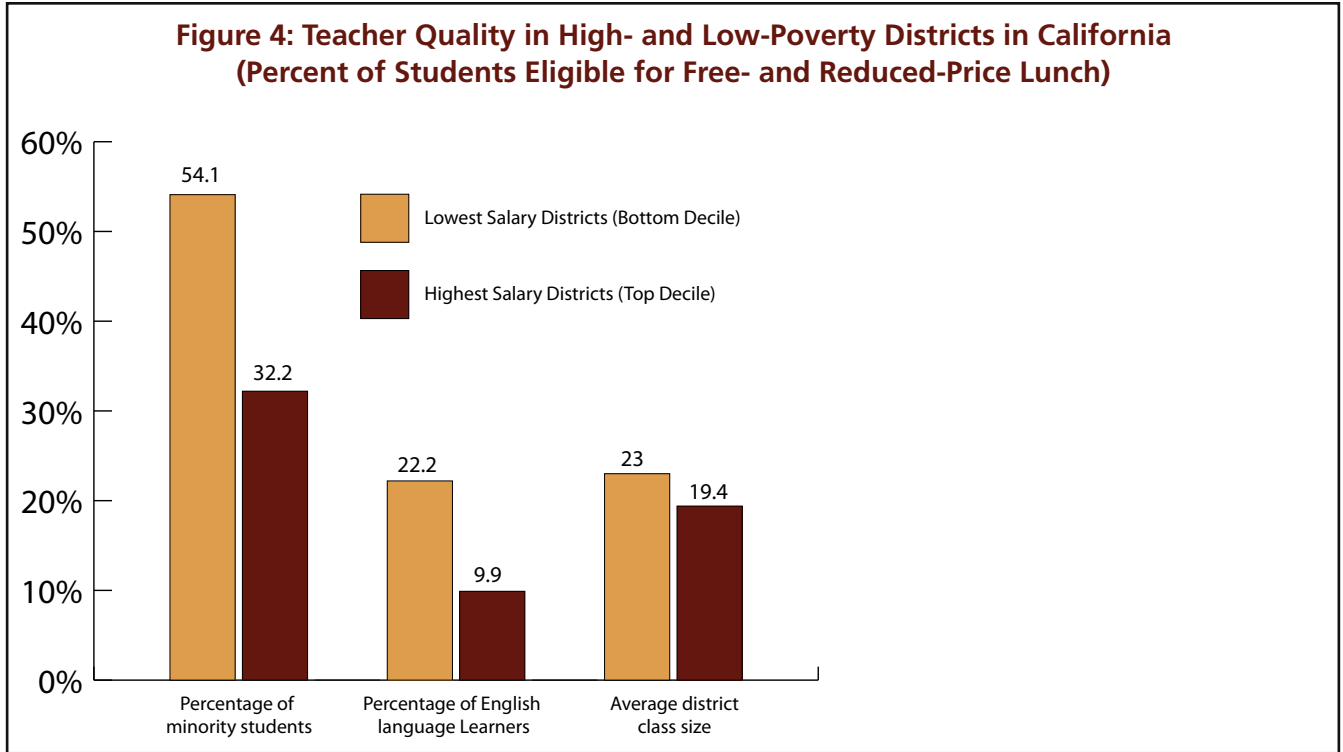


Source: *California Education Data Partnership, 2008-09*

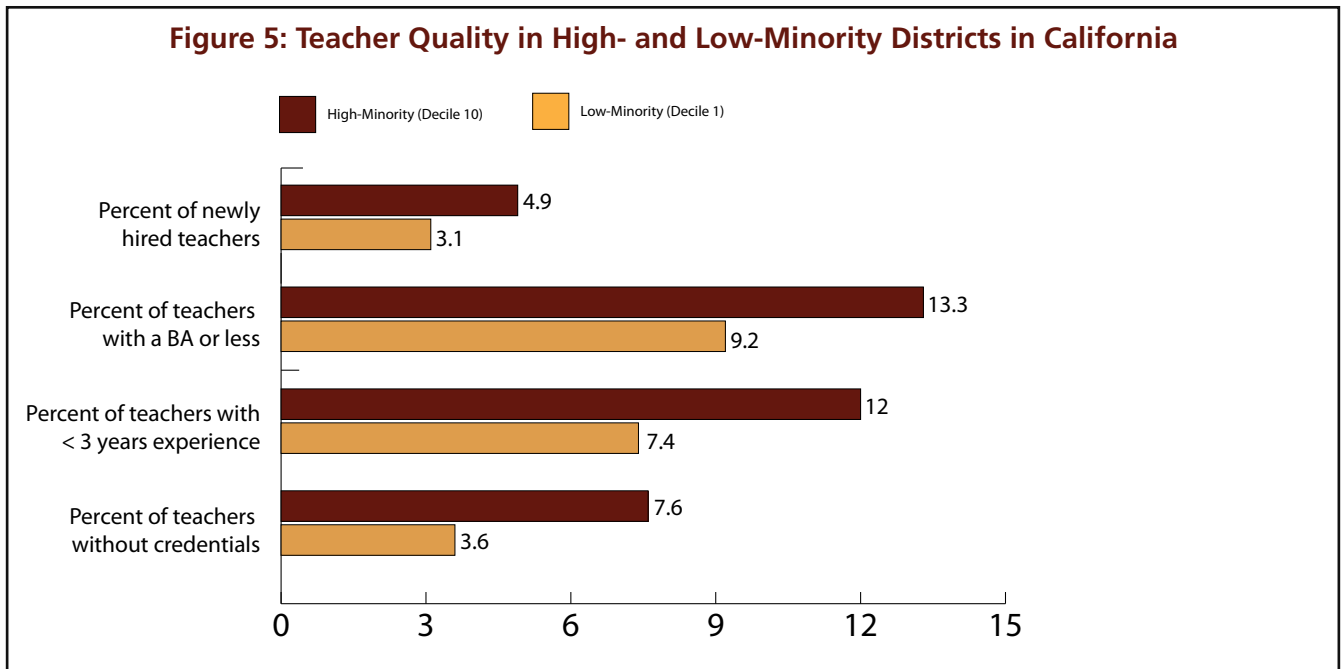
As Figure 4 (page 4) shows, low-salary districts in California serve many more students of color and more than twice as many English language learners as districts offering teachers the highest salaries. Of course, budgeting decisions in low-salary districts could trade off lower teacher salaries for more classrooms and reduced class size; however, we find here that these low-salary districts actually have class sizes about 20 percent larger than the highest-salary districts.

What types of teachers do these high-minority districts with lower salaries and less desirable work conditions, such as larger classes, attract? Figure 5 (page 4) shows that the districts serving the highest proportions of minority students also have about twice as many uncredentialed and inexperienced teachers as districts serving the fewest minority students. These districts have higher turnover, as suggested by the percentage of newly hired teachers in a given year, and their teachers have lower levels of education. The same trends occur in districts serving concentrations of children in poverty.

In short, instead of having access to experienced, prepared, well-compensated teachers with smaller class sizes, traditionally underserved students in California attend larger classes taught by poorly



Source: California Education Data Partnership, 2008.



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paid teachers with less experience and preparation more often than their non-minority, wealthier peers. These realities trace back to the financial inequities within which districts operate.

Salary differentials also appear to influence teachers' decisions about where to teach in New York. As in

California, the characteristics of students and teachers differ between low- and high-salary districts across New York. Districts with the lowest adjusted salaries have more than twice as many low-income students, teachers without a permanent credential, teachers with lower levels of education, and inexperienced teachers (Figure 6, page 5).

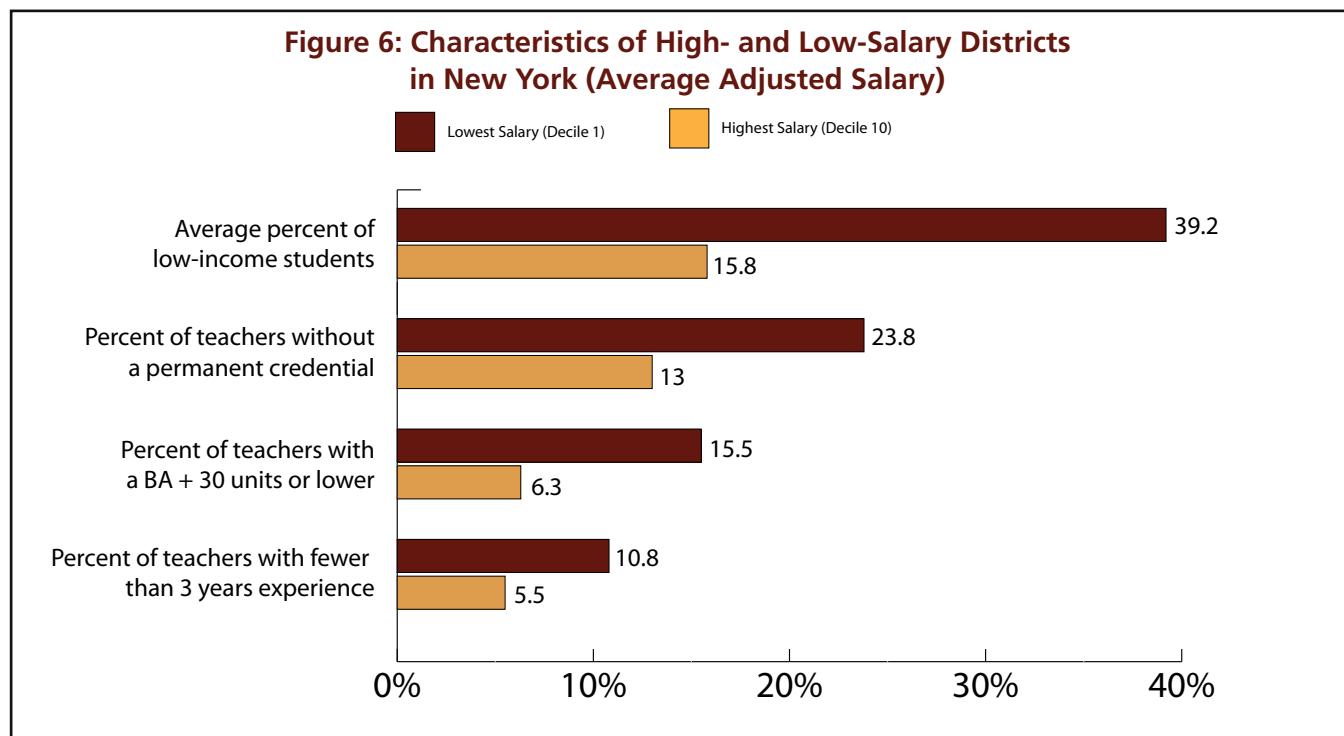
However, New York's school funding reforms have made a dent in these disparities. Whereas some California districts have half or more of their teachers working without experience or training (a situation that once characterized some community districts in New York City), the most impacted New York districts now have fewer than 20 percent of their teachers in this category. While disparities remain a troubling issue in New York, recent history shows that states can make noticeable progress toward improvements in a relatively short period of time.

Can Teacher Salaries Influence Teacher Qualifications?

Many prior studies have found that teacher salaries and working conditions influence who enters teaching and how long they stay. For example, one national analysis found that for every 1 percent increase in teacher salaries in a metropolitan area, the proportion of teachers who graduated from a selective college would increase by 1.5 percent. Another found that states in which teachers' salaries rose the most during the 1980s witnessed the greatest increase in the quality of teachers relative to non-teachers as measured by quality of undergraduate education.

And increases in teacher wages have been found in several studies to be associated with increased student achievement—presumably because more capable teachers can be recruited and retained. Finally, teachers are more likely to quit when they work in districts with lower wages, especially if they are in high-demand fields like mathematics and science and if they are higher-ability individuals, presumably because they have more job options available to them.

Our findings reinforce this prior research. We conducted elasticity analyses which show that, in California, a 1 percentage point increase in average adjusted teacher salaries in a district is associated with a 3 percent decrease in the proportion of uncredentialed teachers, a 4 percent reduction in turnover (measured as the percentage of newly hired teachers in a given year), and a 2 percent reduction in the proportion of inexperienced teachers (those with less than three years of experience). Similarly, in New York, a 1 percent increase in median adjusted teacher salaries is associated with a 3 percent decrease in the proportion of teachers without a permanent credential, a 2 percent reduction in the proportion of inexperienced teachers, and a 1.5 percent decrease



Source: *New York State School Report Card, 2008-09.*

in the proportion of teachers with lower levels of education (BA +30 or below).

As with many earlier studies, we found that teacher qualifications are significant predictors of student achievement at the district level, after controlling for student characteristics (race, poverty, and language background). In California, the proportion of teachers without a full credential is associated with significantly lower scores on the state Academic Performance Index (API). In New York, the percentage of teachers without a permanent credential is significantly related to the proportion of students failing the New York state tests (that is, scoring at a level 1) in English language arts and mathematics.

In both states the proportion of teachers with master's degrees is significantly related to the proportion of students scoring proficient on the state tests. Unlike most other states, master's degrees in both New York and California are typically associated with initial teacher preparation in the teaching field, rather than undifferentiated courses of study used to pick up credits on the salary scale, which have generally been found unrelated to teacher effectiveness. Because these analyses are at the district level, however, rather than the individual teacher level, we interpret the master's degree variable as a proxy for a generally better-qualified teaching force, rather than a dispositive finding regarding the value of master's degrees.

POLICY IMPLICATIONS

Shortcomings of Many Current Policies

Policymakers and researchers have proposed a plethora of potential solutions for shortages of well-qualified teachers in high-need districts. Among the two most common are financial bonuses and alternative certification.

Wage bonuses (sometimes called “combat” pay), intended to attract teachers to vacancies in hard-to-staff schools, often fail because they do not typically address the size of the wage gap or the other dysfunctions of under-resourced, high-need schools: less favorable working conditions, lack of needed services for disadvantaged children, and, often, poor leadership. One recent summary of the literature notes:

...school districts have tried offering additional pay for high-needs schools without much positive result, even when substantial bonuses are awarded. In 2004, Palm Beach, Florida eliminated its \$7,500 high-needs school stipend after few teachers took the offer. Dallas' offer of \$6,000 to accomplished teachers to move to challenging schools also failed to generate much interest.... A decade ago, South Carolina set out to recruit “teacher specialists” to work in the state's weakest schools. Despite the offer of an \$18,000 bonus, the state attracted only 20 percent of the 500 teachers they needed in the first year of the program, and only 40 percent after three years.

As one National Board certified teacher noted in a discussion of what would attract him to a high-needs school, “I would move [to a low-performing school], but I would want to see social services for parents and children, accomplished leadership, adequate resources and facilities, and flexibility, freedom, and time.”

Alternative certification strategies aim to recruit candidates directly into districts to meet hiring needs, and many truncate their training as teachers. However, these programs also do not address the wage and working conditions gap, and studies find that their recruits both tend to leave teaching at much higher rates and to be less effective than fully prepared teachers.

Examples of Successful Policy Strategies

Connecticut and North Carolina are two states that pursued systemic strategies in the 1980s to equalize the distribution of teachers while upgrading teachers' knowledge and skills. The National Education Goals Panel studied both states extensively when their efforts resulted in sharp increases in student performance and reductions in achievement gaps during the 1990s. Both states:

- Sharply increased teacher salaries and equalized them across the state: Connecticut, a local-control state, provided funds on an equalizing basis to districts who raised their minimum salaries to a state-recommended level—the highest in the nation at that time. North Carolina increased its statewide salary schedule

to a market competitive level and reduced the differentials created by local add-ons.

- Strengthened teacher education, licensing, and evaluation standards: Both states raised expectations for teachers' content and pedagogical knowledge, increased the quality of pre-service preparation programs, and introduced tests for entry into the profession. Both also introduced new evaluation processes that principals were trained to implement.
- Offered subsidies for preparation: Both states recruited talented individuals to teaching in high-need fields by offering large-scale service scholarships to underwrite their preparation. These brought more males, minority candidates, math, science, and special education teachers into the profession.
- Developed high-quality mentoring and performance-based induction systems that enhanced teacher effectiveness and lowered the wasteful costs of high attrition.
- Established strong professional development offerings available to teachers across the state in both rich and poor districts. This helped stem attrition by creating greater collegial opportunities and efficacy for teachers.

Both states ended shortages and sharply increased the quality of their teaching forces over the course of 15 years. However, tax caps and policy shifts since 2000 have eroded equalizing aspects of these earlier funding reforms. The continual backsliding of states and districts that have made striking but temporary progress highlights the need for a stronger set of policy strategies, buttressed by both state and federal incentives.

Policy Recommendations

Progress in equalizing resources to students requires attention to inequalities at all levels: between states, among districts, among schools within districts, and with student placement in classrooms, courses, and tracks that offer substantially disparate opportunities to learn. How can policymakers tackle such a multifaceted agenda?

At the State Level

Solving the problems of teacher quality and distribution requires solving the problems of unequal educational funding. To begin with, state policymakers will need to consider strategies like the following:

1. State funding based on student needs and costs of education: Current state funding systems are not rationally related to what school districts are expected to do: Educate diverse students to comparable standards. To do this, states will need to establish a per-pupil funding base that represents what an adequate education actually costs to meet achievement standards. Weights applied to this per-pupil base should accurately reflect the costs of meeting student needs. This weighted student formula allocation should also be adjusted for cost-of-living differentials across large states and supplemented with funds to address unavoidably variable costs such as transportation and school construction.
2. State-level standards and supports: A weighted formula, however, would not ensure that districts use the funds to hire more qualified staff or that a supply of such well-prepared staff would be available for them to recruit. The state needs to define standards for teacher quality and create a strong, steady supply of effective practitioners—a job that goes beyond what districts themselves can do, even with a more stable and equitable distribution of local resources. The research underscores the importance of strategies like Connecticut's and North Carolina's that ended shortages and boosted student achievement by strengthening teacher education and development programs and equalizing the distribution of better-qualified teachers.

At the Federal Level

Although education remains a state responsibility, federal policy can leverage strong steps toward ensuring that every child has access to adequate school resources and quality teachers. Just as federal funding to states currently accompanies requirements to evaluate and move toward more equitable outcomes

for students, so federal investments should link to each state's movement toward equitable access to education resources. To address the inequities outlined here, Congress should:

1. Equalize allocations of ESEA resources across states so that high-poverty states receive a greater share. Federal funds are currently allocated in ways that often favor wealthier states. Instead, allocation formulas should use indicators of student need, with adjustments for cost-of-living differentials, rather than relying on measures of spending that disadvantage poor states.
2. Enforce existing ESEA comparability provisions for ensuring equitable funding and equally well-qualified teachers to schools serving different populations of students. The law already requires that districts develop policies to balance the qualifications of teachers across schools serving more- and less-advantaged students. However, this aspect of the law is weakly enforced, and wide disparities continue to occur. More recent legislative proposals call for equalized funding across schools to enable access to qualified teachers and other resources. This equalization should occur across districts as well.

3. Require states to include information on resource indicators to accompany their reports of academic progress for each school, reflecting the availability of well-qualified teachers; strong curriculum opportunities, such as college preparatory coursework; books, materials, and equipment (such as science labs and computers); and adequate facilities.
4. Evaluate progress on resource indicators in state plans and evaluations under the law, and require states to meet federal standards of resource equity—including the availability of well-qualified teachers—for schools identified as failing. As a condition for receiving federal funds, each state should include in its application for federal funds a report describing the state's demonstrated movement toward adequate and equitable access to education resources, and a plan for further progress.

Solving the inequitable distribution of well-qualified and effective teachers is not impossible, but it will ultimately require investment policies that both promote strategic resource equalization and leverage investments in the quality of personnel. With such investments, it is possible to construct the equitable access to quality teaching that all students deserve.



Stanford University School of Education
 Barnum Center, 505 Lasuen Mall • Stanford, CA 94305
<http://edpolicy.stanford.edu> • scope@stanford.edu • 650.725.8600

To read more, see the full report: Adamson, F., & Darling-Hammond, L. (2011). *Speaking of salaries: What it will take to get qualified, effective teachers in all communities*. Washington, D.C.: Center for American Progress.

The report can be downloaded from <http://www.americanprogress.org/> and <http://edpolicy.stanford.edu>.