



Not Prepared for Class: High-Poverty Schools Continue to Have Fewer In-Field Teachers

BY SARAH ALMY AND CHRISTINA THEOKAS

As Secretary of Education from 1993 to 2001, Richard Riley had serious concerns about out-of-field teaching. The practice—which places in core academic classes instructors who have neither certification nor a major in the subject field taught—just didn't make sense to him.

Both when he considered what children were getting in the classroom or thought of those overburdened teachers, staying up late every night to keep a chapter ahead of the students, it seemed to him detrimental to have so many schools routinely assigning teachers out of field.

Secretary Riley worked hard to convince state and local education leaders to eliminate this widespread practice. He sought advice far and wide, including from visiting education ministers from other developed countries. As he ruefully told many audiences, though, they couldn't provide much help because this vexing practice was so uniquely American that the "foreign translators had no words even to describe it."

After Riley left office, the 107th Congress and the new president picked up the mantle. They worried that, while research findings were piling up on the critical importance of high-quality teachers, few states had revisited their requirements for teachers, even after raising their standards for students. Because of these concerns, when Congress reauthorized the Elementary and Secondary Act in 2001, the new No Child Left Behind law required states to make sure all of their teachers were "highly qualified" by 2006—and legislators specifically included in-field assignment at the secondary level as a condition of qualifica-

tion. In addition, the new law addressed the issue in terms of equity: It required that low-income and minority students not be taught disproportionately by teachers teaching out of field.

So, it has been nine years since the law passed, and even longer since Secretary Riley declared war on out-of-field teaching. Where are we?

According to state reports to the U.S. Department of Education, the attention to teacher qualifications has paid off handsomely. The Department's summary of state-submitted data for 2007-08 indicates that 95 percent of secondary-level core academic classes are now staffed by highly qualified teachers.¹ Ninety-five percent is an improvement of eight percentage points since the data were first collected in 2003-04. Although states did not reach the goal of 100 percent, the progress is still impressive.

Unfortunately, the data that comes from teachers themselves tells a different story. An analysis of the most recent data from the U.S. Department of Education's 2007-08 Schools and Staffing Survey (SASS)—based on reports from teachers—indicates that the actual out-of-field rate is three times as high as the state-reported rate. In fact, 15.6 percent of secondary core academic classes are taught by a teacher with neither certification nor a major in the subject area taught, an improvement of just over one percent since 2003-04.² (A state-by-state summary of SASS data on the percentage of teachers without either a major or certification in their field can be found in Table 1 at the end of this report.)

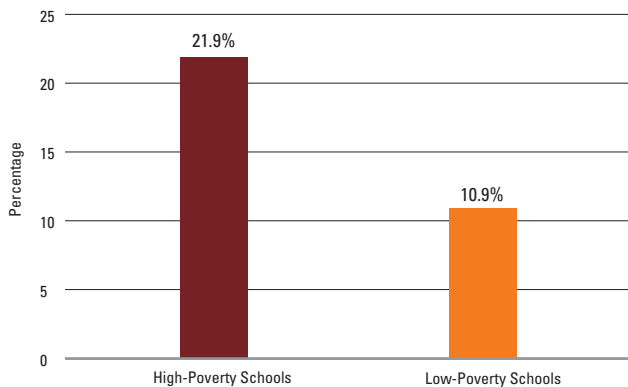
If progress continues at this rate, it will be 39 more years until we can step back and say that all core academic classes are taught by qualified teachers. In the meantime, two more generations of our children will struggle to learn subject matter from teachers who themselves are struggling to master it.

HIGH-POVERTY STUDENTS STILL SUFFER FROM DISPROPORTIONATELY OUT-OF-FIELD TEACHING

The overall out-of-field rate is a problem. But even more worrisome are the disparities in access to qualified teachers between high-poverty and low-poverty schools. Although No Child Left Behind required states to ensure that students in low-income communities were not disproportionately taught by inexperienced and unqualified teachers, the requirement did not create significant change. Core academic classes in high-poverty secondary schools are almost twice as likely to have an out-of-field teacher as counterpart classes in low-poverty schools. In high-poverty schools, more than one in every five core classes (21.9 percent) is taught by an out-of-field teacher, compared with one in nine classes or 10.9 percent in low-poverty schools (see Figure 1).

Figure 1: Out-of-Field Teachers Are Much More Prevalent in High-Poverty Secondary School Classes

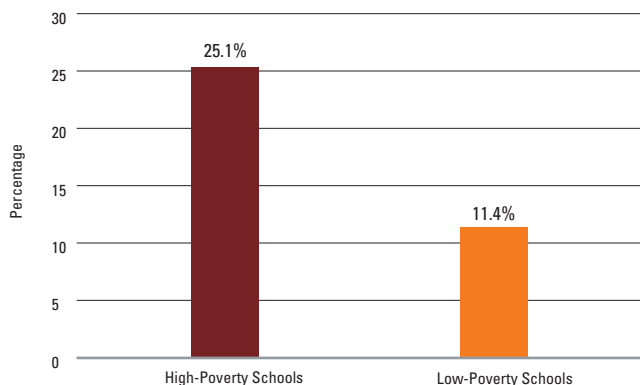
Percentage of Classes Taught by Teachers With Neither Certification Nor Major



Source: Analysis of U.S. Department of Education, *Schools and Staffing Survey (SASS)*, 2007-08.

Figure 2: Math Classes in High-Poverty Secondary Schools Are Twice as Likely to be Taught by Out-of-Field Teachers

Percentage of Math Classes Taught by Teachers With Neither Certification Nor Major



Source: Analysis of U.S. Department of Education, *Schools and Staffing Survey (SASS)*, 2007-08.

The inequities are even more disturbing in secondary mathematics classes, especially as student success in math is a predictor of future success.³ Although we know that teacher content knowledge matters when it comes to teaching math,⁴ one in every four secondary math classes in high-poverty schools is taught by a teacher with neither a math major nor certification in math (see Figure 2). This puts low-income students at a huge disadvantage, both in terms of achievement in math and overall school success.

DISPARITIES IN ACCESS ACROSS COMMUNITIES OF ALL SIZES

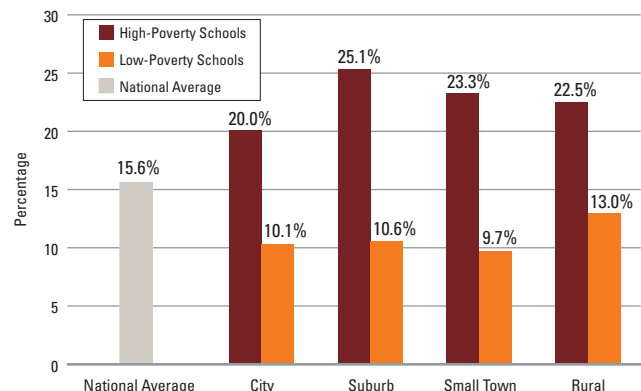
While disproportionate access to highly qualified teachers is a deep concern in cities and rural areas, the gaps in access, perhaps surprisingly, are actually widest in our nation's suburbs and towns (see Figure 3).

- One in four core classes (25.1 percent) in high-poverty suburban schools has an out-of-field teacher compared with one in nine (10.6 percent) in low-poverty schools.
- The percentage of classes taught by out-of-field teachers in high-poverty suburban schools is nearly ten percent higher than the national average of classes taught by out-of-field teachers (25.1 percent versus 15.6 percent).
- Regardless of poverty status, one out of every six secondary-level classes in small towns across the country is taught by an out-of-field teacher. For the high-poverty schools in these towns, this jumps to almost one in four classes.

So whether they are growing up in cities, suburbs, small towns, or rural communities, students in higher poverty schools everywhere are getting shortchanged when it comes to access to better qualified teachers.

Figure 3: High-Poverty Secondary Schools Have More Classes Taught by Out-of-Field Teachers No Matter Where They are Located

Percentage of Classes Taught by Teachers With Neither Certification Nor Major



Source: Analysis of U.S. Department of Education, *Schools and Staffing Survey (SASS)*, 2007-08.

PATTERNS IN ACCESS EXTEND TO CHARACTERISTICS BEYOND OUT-OF-FIELD TEACHING

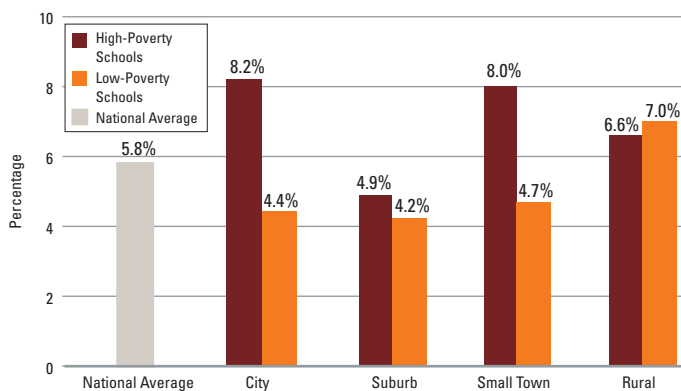
In looking beyond teacher certification to other characteristics such as teacher experience, patterns remain the same: Teachers with weaker credentials are disproportionately teaching our low-income and minority students. First-year teachers, who research indicates are less effective than their more experienced peers,⁵ are assigned to teach students in high-poverty schools at a higher rate than other students.

This problem is most pronounced in our cities and small towns, where first-year teachers are assigned to high-poverty schools at almost twice the rate that they are assigned to low-poverty schools (see Figure 4). Only 4.7 percent of teachers in towns' low-poverty schools are brand-new, first-year teachers; this jumps to 8 percent in high-poverty schools. In rural areas, both high and low-poverty schools employ first-year teachers at a rate surpassing the national average.

Not all first-year teachers are of poor quality; some may be quite good right off the bat. Yet the vast majority of teachers—even those who are good from the beginning—continue to grow stronger after their first year in the classroom. So when there is an increased likelihood that, year after year, students will have a first-year teacher versus a teacher with more experience, it increases the risk that their achievement will suffer.

Figure 4: High-Poverty Schools in Cities and Towns Exceed the National Average for First-Year Teachers

Percentage of First-Year Teachers



Source: Analysis of U.S. Department of Education, *Schools and Staffing Survey (SASS)*, 2007-08.

Although No Child Left Behind required states to ensure that students in low-income communities were not disproportionately taught by inexperienced and unqualified teachers, the requirement did not create significant change.

WHY IS THIS SO WORRISOME?

Teachers matter tremendously. Abundant research has concluded that among schoolhouse variables, teacher quality has the single most significant impact on student academic gains.⁶ Children with three effective teachers in a row soar academically as compared to peers who start at the same point but are exposed to a series of ineffective teachers.⁷ When certain groups of students are subjected—year after year, subject after subject—to teachers of lesser quality, it adds up dramatically.

Unfortunately, it will still be some time until all schools have sound measures for assessing teachers' impact on individual student growth, although states and districts are moving faster than ever before to accomplish this goal. In the interim, and especially because low-income and minority students who are not getting their fair share of good teachers can't wait until all of these measures are in place, we must continue to look at the best indicators we have to monitor the degree of equitable access to more qualified teachers.

For example, indicators such as certification, major, and experience, while not perfect stand-in measures for an individual teacher's effectiveness, can provide important information about teachers' likely impact in the classroom.

On average, teachers with demonstrated knowledge of the subject area generate stronger results with students, particularly in mathematics.⁸ Similarly, teachers with more experience are found to be more effective than beginning teachers.⁹

Until we have robust systems and tools to accurately measure teacher impact on student learning, these measures can play an important role in identifying where our stronger and weaker teachers are clustered and identifying areas where changes need to be made.

WHAT CAN BE DONE TO ADDRESS THIS ISSUE?

Many forces work together to hold in place current inequities in who teaches whom, and, as a result, equal access to high-quality teachers won't come about by accident. It also won't come about by only addressing one or even two of those factors. Staffing schools in a way that ensures that all kids have access to strong teachers requires states and school districts to mount strategies that address multiple problems at once.

Some states and districts have found ways to begin to change long-standing patterns in teacher access (*see sidebar on Charlotte-Mecklenburg Schools*). What can districts and states do?

- 1. Collect data on teacher quality and equality, and get it out in public.** Current federal law requires states and districts to report data on whether low-income and minority students are taught disproportionately by teachers who are inexperienced, out-of-field, or uncertified. Those data are a good start. Some states, like Tennessee, can (and do) also report disproportions in the assignment of highly effective or unusually ineffective teachers. There are also a range of other useful indicators, including teacher absenteeism or high passing scores on teacher-licensure exams. These data should be reported publicly.
- 2. Adopt a policy prohibiting disproportionate assignment of high-quality or low-quality teachers.** While federal law prohibits this already, states like Florida have shown that it is also useful to have a state law. Then state leaders can prohibit districts from entering into agreements that interfere with the policy goal of fair access and, as Florida did, deny discretionary funding for districts that don't make progress on closing teacher-quality gaps.
- 3. Use the state's authority to intervene in low-performing schools.** Almost all states have unusual authority to intervene in low-performing schools. Some states have used that authority creatively to change the mix of teachers in these schools. California, for example, has a state law that protects low-performing schools from "must place" teachers (those who have been dismissed from their positions but, because of contracts, are guaranteed employment in the district). And Florida insisted that districts remove all extremely low value-added teachers from "F" schools.¹⁰ Districts can do much the same thing themselves—if they really want to.
- 4. Provide big incentives for strong teachers to stay in or move to high-poverty and high-minority schools.** Some districts—including Guilford County, N.C., and Hamilton County, Tenn.—are paying high value-added teachers salary incentives to teach in the highest poverty schools. Other states and districts are providing bonuses to National Board

Charlotte-Mecklenburg's Strategic Staffing Initiative

One district that has worked hard to provide effective teachers for all students is North Carolina's Charlotte-Mecklenburg Schools. After seeing uneven performance in schools in his district, Superintendent Peter Gorman knew he had to do something. He knew getting top teachers into his low-performing schools was a crucial lever for improving performance. But experience told him that even if he could persuade strong teachers to teach in the lowest performing schools, which also were some of the highest poverty schools, they would never stay there without good school leadership.

So Gorman started by building a system that would bring strong leadership to the low-performing and high-poverty schools. He worked hard to turn the status hierarchy in the district totally upside down: Instead of all the status, resources, and flexibility going to the highest performing schools, he redirected importance toward the lowest performing schools. Having done this, when he called on his best principals to take the helm of some of his worst schools, they all said the same thing: "It's an honor."

Also, he didn't send them alone. Each principal got to take an assistant principal, a behavior specialist, and five high value-added teachers. And when they got to the new school they got to remove five low value-added teachers. Then Gorman gave the new school leaders the authority to change what they needed to change without interference, and he guaranteed that he would not interfere unless they failed to produce large gains within three years.

Bottom line: All the schools in the first cohort of the Strategic Staffing Initiative increased student achievement within the first year.¹¹ A second and third cohort are now underway to expand the impact of this initiative.

Certified Teachers only if they teach in the highest poverty schools. Others are moving toward revising their systems of teacher compensation with an emphasis on performance.

- 5. Measure and hold accountable teacher preparation programs for producing high-quality teachers for high-poverty and high-minority schools.** Other states should follow the lead of Louisiana: They should measure the effectiveness of teacher preparation programs by the learning gains their teachers produce. With these data in hand, states can grow the strong programs and shrink the weak ones. But they can also go one step further: Give their high-poverty and high-minority schools first crack at the graduates from the most effective programs.
- 6. Develop rigorous evaluation systems to measure teacher effectiveness.** States and districts should act on the data currently available on teacher quality. They should also develop next-generation teacher-evaluation systems. These new evaluation systems should identify effective teachers based on teacher impact on student growth and rigorous measures

of classroom practice. Districts around the country, including the New Haven Public Schools, are already moving in this direction. In New Haven’s recently implemented evaluation system, all teachers will be evaluated on student progress on standardized and teacher-generated assessments, in addition to their instructional practice and professional values. School leaders can then use this information to assist them in recruitment, assignment, and retention decisions to ensure that our low-income students and students of color get their fair share of our most effective teachers.

No single one of these steps will turn the situation entirely around. But together, they can go a long way toward delivering on the promise of equal education for all.

Methodology

The Schools and Staffing Survey is the nation’s largest sample survey of American’s public and private schools, districts, principals, teachers, and school libraries. Administered by the U.S. Department of Education’s National Center for Education Statistics (NCES), the survey has been conducted periodically since 1987-88 in order to assess trends over time.

The analysis of out-of-field teachers is based on a subset of public school teachers of departmentalized classes in core academic subjects (English/language arts, mathematics, science, and history/social studies) in grades 7-12. For the purposes of this analysis, we define “out-of-field teachers” as those possessing neither certification nor an academic major in a field that “matched” the subject of the classes they were assigned to teach. In our analysis of math classes, we classify as “in-field” those individuals who hold a major in a mathematics-related academic area, such as engineering or physics, or a subject-area education degree, such as mathematics education.

We examine the problem of out-of-field teaching in schools that vary in urbanicity and the percentage of students receiving free or reduced price lunches. “High-poverty” refers to schools with 55 percent or more students who are eligible for free or reduced-price lunch, while “low-poverty” refers to schools with 15 percent or fewer students from low-income families. These percentages roughly correspond to the top and bottom quartiles of schools serving secondary students.

In our analysis of teacher experience, we included all regular full-time and part-time teachers in the sample. We examine the distribution of first-year teachers by school urbanicity and percentage of students receiving free or reduced-price lunch. In this sample of elementary and secondary schools, the “high-poverty” quartile refers to schools with 62 percent or more students who are eligible for free or reduced-price lunch, while the “low-poverty” quartile refers to schools with 12 percent or fewer students from low-income families.

Table 1: Percentage of Core Academic Secondary Classes Taught by Teachers With Neither a Major Nor Certification

	03-04	07-08
Alabama	12.3	15.4
Alaska	32.6	22.2
Arizona	26.1	18.5
Arkansas	13.3	20.0
California	17.7	17.5
Colorado	13.2	19.0
Connecticut	15.8	16.3
Delaware	21.9	25.6
District of Columbia	12.5	15.6
Florida	17.9	15.9
Georgia	23.7	18.0
Hawaii	18.6	19.6
Idaho	17.2	17.7
Illinois	16.9	12.2
Indiana	6.7	12.1
Iowa	12.9	12.7
Kansas	17.2	15.5
Kentucky	18.7	17.9
Louisiana	34.8	29.4
Maine	19.7	23.3
Maryland	24.0	14.3
Massachusetts	14.7	9.2
Michigan	16.1	10.8
Minnesota	8.2	9.1
Mississippi	16.1	12.9
Missouri	16.3	19.8
Montana	19.7	22.6
Nebraska	12.7	12.3
Nevada	23.2	25.4
New Hampshire	19.5	14.5
New Jersey	21.1	21.5
New Mexico	24.7	20.2
New York	13.2	9.2
North Carolina	17.0	12.1
North Dakota	8.8	10.1
Ohio	25.3	20.2
Oklahoma	14.9	14.7
Oregon	19.0	10.9
Pennsylvania	17.0	7.6
Rhode Island	8.2	9.8
South Carolina	17.3	21.7
South Dakota	12.2	17.6
Tennessee	24.1	23.8
Texas	12.4	14.0
Utah	9.8	11.7
Vermont	9.3	9.0
Virginia	19.0	17.2
Washington	25.3	27.1
West Virginia	14.0	13.7
Wisconsin	14.6	15.9
Wyoming	18.0	10.7
U.S.	17.2	15.6

Source: U.S. Department of Education, *Schools and Staffing Survey (SASS)*.

NOTES

- 1 www2.ed.gov/programs/teacherqual/data2009.doc
- 2 Although the definition to determine whether teachers are qualified to teach a specific class in the Consolidated State Performance Report (CSPR) is similar to the one used in the analysis of the Schools and Staffing Survey, the CSPR definition allows for differently credentialed teachers to be considered “highly qualified.” For example, the CSPR may count as “highly qualified” those teachers who are actively pursuing certification through additional coursework, but who do not currently possess certification for the class they are assigned to teach. By contrast, SASS asks teachers to report current certifications held and matches certification to each class taught.
- 3 Cliff Adelman, “The Toolbox Revisited: Paths to Degree Completion from High School Through College” (Washington, D.C.: U.S. Department of Education, 2006), www.ed.gov/rschstat/research/pubs/tollboxrevisit/index.html.
- 4 Charles T. Clotfelter, Helen F. Ladd, and Jacob L. Vigdor, “Teacher Credentials and Student Achievement in High School: A Cross-Subject Analysis With Student Fixed Effects,” *Journal of Human Resources*, 2010.
- 5 Clotfelter, Ladd, and Vigdor, “Teacher Credentials and Student Achievement.” See also Thomas Kane, Jonah Rockoff, and Douglas Staiger, “What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City,” *Economics of Education Review*, 2006.
- 6 R. Gordon, T.J. Kane, and D.O. Staiger, “Identifying Effective Teachers Using Performance on the Job” (Washington, D.C.: The Brookings Institution, 2006). See also Heather Jordan, Robert Mendro, and Dash Weerasinghe, “Teacher Effects on Longitudinal Student Achievement” (presentation, CREATE conference, Indianapolis, July 1997). <http://www.dallasisd.org/eval/research/articles/Jordan-Teacher-Effects-on-Longitudinal-Student-Achievement-1997.pdf>
- 7 Jordan, Mendro, and Weerasinghe, “Teacher Effects,” 1997.
- 8 Dan Goldhaber and Dominic Brewer, “Does Teacher Certification Matter? High School Teacher Certification Status and Student Achievement,” *Educational Evaluation and Policy Analysis* 22, no. 2 (2000). See also Clotfelter, Ladd, and Vigdor, “Teacher Credentials and Student Achievement.”
- 9 Clotfelter, Ladd, and Vigdor, “Teacher Credentials and Student Achievement.”
- 10 Florida’s “F” schools are the lowest performing schools in the state, as identified through the state’s school grading criteria based primarily on the Florida Comprehensive Assessment Test (FCAT). <http://schoolgrades.fldoe.org/pdf/0910/2010SchoolGradesTAP.pdf>
- 11 Jonathan Travers and Barbara Christiansen, “Strategic Staffing for Successful Schools: Breaking the Cycle of Failure in Charlotte-Mecklenburg Schools,” *Education Resource Strategies and the Aspen Institute*, pp. 15-17, 2010.

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