

NOT WITHOUT TALENTED TEACHERS:
THE DISTRIBUTION OF TEACHING CAPACITY
IN SAN DIEGO COUNTY

by:

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Executive Summary

The schools in San Diego County that have the lowest student achievement also have the highest concentration of inexperienced teachers. These schools often have high concentrations of poor and minority students.

- Students in high poverty schools are two and one-half times more likely to have a new teacher than students who attend schools in more affluent neighborhoods.
- Almost 30% of teachers at high poverty schools are only in their first or second year of teaching, compared to just over 10% at affluent schools.
- The more “white” the student population at a school, the lower the chance of encountering a teacher new to the profession. A school with a 75% or more Hispanic student enrollment is twice as likely to have new teachers than a school with 25% or fewer Hispanic students.

This is not a one-year phenomenon. Every year these schools see one-third or more of the teachers in their first or second year of teaching.

- New teachers accounted for more than one-third of the faculty for three consecutive years at 13 San Diego County schools.
- New teachers accounted for more than one-third of the faculty for two of the last three years at 32 San Diego County schools.

This is a serious problem for overcoming the achievement gap between low-income – and predominantly minority -- students and their peers. While an inexperienced teacher is not necessarily a bad teacher, concern arises when large numbers of teachers new to the profession are cluster together at a single school site.

- The quality of teaching (experience, ability, education) is the most important school-based variable for ensuring high academic achievement. The effects of even one poor or one good teacher are still reflected in student test scores two years later.
- Teaching experience brings with it greater capacity to help students learn. A high concentration of new teachers means there are fewer experienced peers who can serve as informal mentors.
- The job of the principal as an instructional leader becomes more difficult, as they are simultaneously challenged to coach and assist multiple faculty members who are new to the profession.

The problem is countywide but is greatest in San Diego City Schools.

- In the 1999-2000 school year, 4 out of every 5 schools with over 35% new teachers were in San Diego City Schools.
- In San Diego Unified School District, teachers can more easily transfer from one school site to another. Also, the more senior teachers have the first opportunity to apply for open positions, allowing them to more easily leave the schools that need them most.

The challenge for our educational system.

- Schools are being held accountable for low student achievement without the benefit of the quality teachers to provide sound instruction.
- High levels of teacher mobility frustrate professional development strategies, as freshly trained teachers leave the most challenging schools for other opportunities.
- The search for high-quality teachers is complicated by the reality that an effective teacher is expected to educate an increasingly diverse student body exhibiting a wide range of learning styles.
- Class size reduction has exacerbated a growing demand for new teachers, forcing schools to hire tens of thousands of teachers who do not meet minimum teaching qualifications.
- We need more new teachers, not fewer, but we need them to be adequately trained and equitably distributed across the region's schools.

There are several promising strategies to encourage an equitable distribution of quality teachers.

- Community-based support systems, including the creation of local education foundations, which channel resources to high poverty schools.
- Investments in professional development that are concentrated in low-achieving, high poverty schools.
- Extra support for novice teachers, including dedicated mentoring by experienced teachers.
- Short-term monetary incentives for multi-year commitments at high poverty schools.
- Subsidized opportunities for continuing education, including the pursuit of specialized credentials, postgraduate degrees, and national-level certifications.
- The recruitment of very high-quality learning specialists, particularly in core subject areas such as reading and mathematics, to complement and support classroom instruction.

“In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms.”

- Brown v. Board of Education, 1954

I. Introduction

The standards-based reform movement in public education is predicated upon the conviction that *all* students can satisfy rigorous academic standards. The ability of schools to deliver on this ambitious promise of high expectations for all students, however, depends upon a number of factors, not the least of which is the quality of the teachers charged with its execution. In fact, no other school-based variable plays a more significant role in shaping the education of our children than the quality of the teaching force. The research is indisputable on this point: schools simply cannot produce better-educated students in the absence of well-prepared teachers.

For the last several years San Diego Dialogue has been examining strategies to address the academic achievement gap between low-income and minority students and their peers in San Diego County. San Diego Dialogue is a community-based public policy center at the University of California, San Diego. The Dialogue helps to define and advance solutions to long-term challenges facing the San Diego/Baja California cross border region. In the area of K-12 education, the Dialogue has devoted considerable attention and energies to strengthening the quality of teaching in our region’s most disadvantaged schools.

This report describes the distribution of prepared and experienced teachers in San Diego County. Following this introduction, Section II of the report provides a brief review of what is known about the impact of teacher quality on student achievement. It reviews the powerful body of evidence that suggests that the quality of teaching is the most important variable for ensuring high academic achievement. Section III of the report presents data drawn from the California Department of Education regarding the distribution of experienced and well-prepared teachers in

the region's schools. These data reflect how experienced, properly credentialed and well-educated teachers are allocated to the schools and students of San Diego County. They describe the gaps in teacher quality that exist between high achieving and low achieving schools, between high poverty and low poverty schools, and between schools with different levels of ethnic minority enrollments. The data also describe how the distribution of teaching experience has changed over the past three years in San Diego County. The report concludes in Section IV with a brief discussion of the findings, including some suggested components of an action agenda to encourage an equal distribution of teaching talent across the region's schools.

II. Teacher Quality Matters

Persistent calls at the national level for "a talented, dedicated, and well-prepared teacher in every classroom" are fueled by the widely accepted tenet that teacher quality is *the most critical* school-based determinant of student achievement. A growing body of research confirms the link between teachers' abilities, experiences, and education and increases in student achievement. Studies point to strong verbal and math skills (as measured by standardized tests) and deep content knowledge (e.g. college degrees in subject-specific areas such as math and science) as teacher characteristics that relate directly to student achievement.¹ For example, researchers have found a significant positive relationship between teacher test scores in Texas and Alabama and their students' scores on standardized tests.² A national study of eighth graders found a strong direct relationship between students' performance in math and science and whether or not their teachers possessed college degrees in these subjects.³

More dramatically, studies demonstrate that students unfortunate enough to have been assigned one of a school system's least effective teachers experience *significantly* lower performance levels over time. For example, when Tennessee third graders of comparable achievement were assigned teachers of differing levels of effectiveness, those taught by the least effective teachers three years in a row consistently performed poorer (up to 50 percentile points lower in some cases) than those with the most effective teachers during the same period. The effects of even one poor or good teacher were still reflected in student assessment scores two years later.⁴ According to William Sanders, Director of the Value-Added Research and Assessment Center at

the University of Tennessee, "The answer to why children learn well or not isn't race, it isn't poverty, it isn't even per pupil expenditure at the elementary level. It's teachers, teachers, teachers."⁵

Perhaps the most disconcerting aspect of the research in this area is that certain children -- poor and minority children -- are regularly assigned the least effective teachers. In fact, teachers at high-poverty, high-minority schools more frequently teach out-of-field, possess fewer masters' degrees, and are more likely to hold an emergency credential than their counterparts at lower poverty schools.⁶ A student studying at a high-poverty school is actually twice as likely to be taught by a teacher who is not teaching in a field in which he or she has an academic major or minor than is a student at a low-poverty school.⁷ High-poverty schools also experience less parent involvement to support these teachers. Finally, teachers at these schools frequently lack the type of professional development opportunities afforded those in wealthier communities.⁸

All of this raises the disturbing question of whether poor and minority children, many of whom must rely more heavily upon teachers for academic and social support than their more affluent peers, are being given a fair chance to succeed. Some especially compelling research using schools in Alabama and North Carolina indicates that affording minority and poor children comparable access to quality teachers would go a long way toward shrinking the achievement gap between these children and their wealthier, predominantly white peers.⁹

III. The Distribution of Teaching Capacity in San Diego County

Despite the overwhelming importance of teacher quality to student achievement, it is surprisingly difficult to assess the status and distribution of teaching capacity in California's school districts. There are no readily accessible sources of information to ascertain an individual teacher's qualifications and information about the quality of the faculty at a school site is rarely communicated to the public. Essentially the only thing the public knows about a practicing teacher is that they have a college degree and have passed a relatively simple licensing exam. There is also no standardized source of information in California to analyze a teacher's success once they are in the classroom. State-level data systems do not allow for consideration of

whether a given teacher is successful at teaching his or her students to high standards. Even at the school district level, districts often lack the capacity to “match” data on student achievement outcomes to individual teachers teaching within their system.

In the absence of more complete systems of information, one can turn to general “snapshots” of the characteristics of school site faculty, which are collected and reported to the state of California once per year. In order to assess the distribution of teaching capacity in San Diego County, San Diego Dialogue employed the California Basic Education Data System (CBEDS), a database of school characteristics maintained by the California Department of Education.¹⁰ The CBEDS database maintains data collected from school sites on a number of characteristics of the site’s faculty. Together, these data paint the most accurate, comprehensive picture available of the distribution of teaching capacity across the region’s public schools.

A. Teaching Experience

One of the most important indicators of teaching capacity at a school site is the experience level of the school’s teachers. Experienced teachers can serve as informal mentors to their less experienced counterparts and can bring deep content knowledge and a variety of teaching strategies to the challenge of helping students to meet academic standards. This is not to say that an inexperienced teacher is a bad teacher, but only that teaching experience brings with it greater capacity to help students learn.

Of particular concern is the phenomenon of concentrated teaching inexperience, in which large numbers of teachers new to the profession are clustered together at a single school site. As displayed in the data below, inexperienced teachers consistently appear in greater numbers at low achieving, high poverty and high minority schools in San Diego County.

- **Low achieving schools are more likely to have new teachers.**

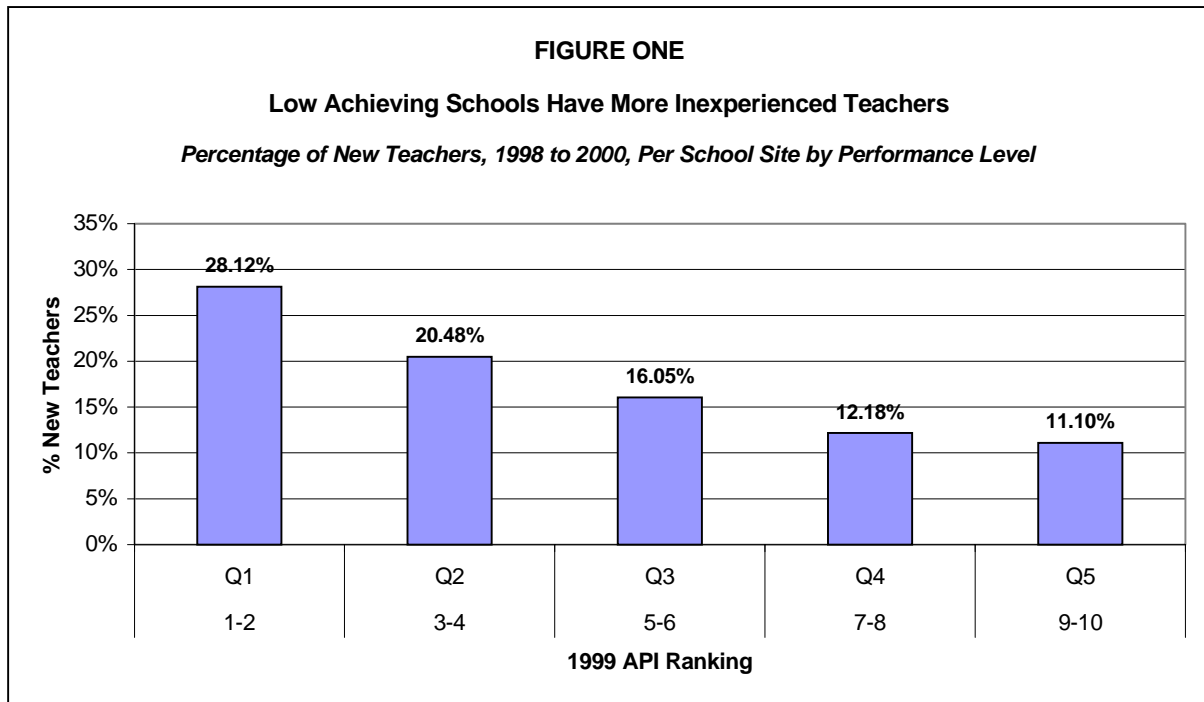


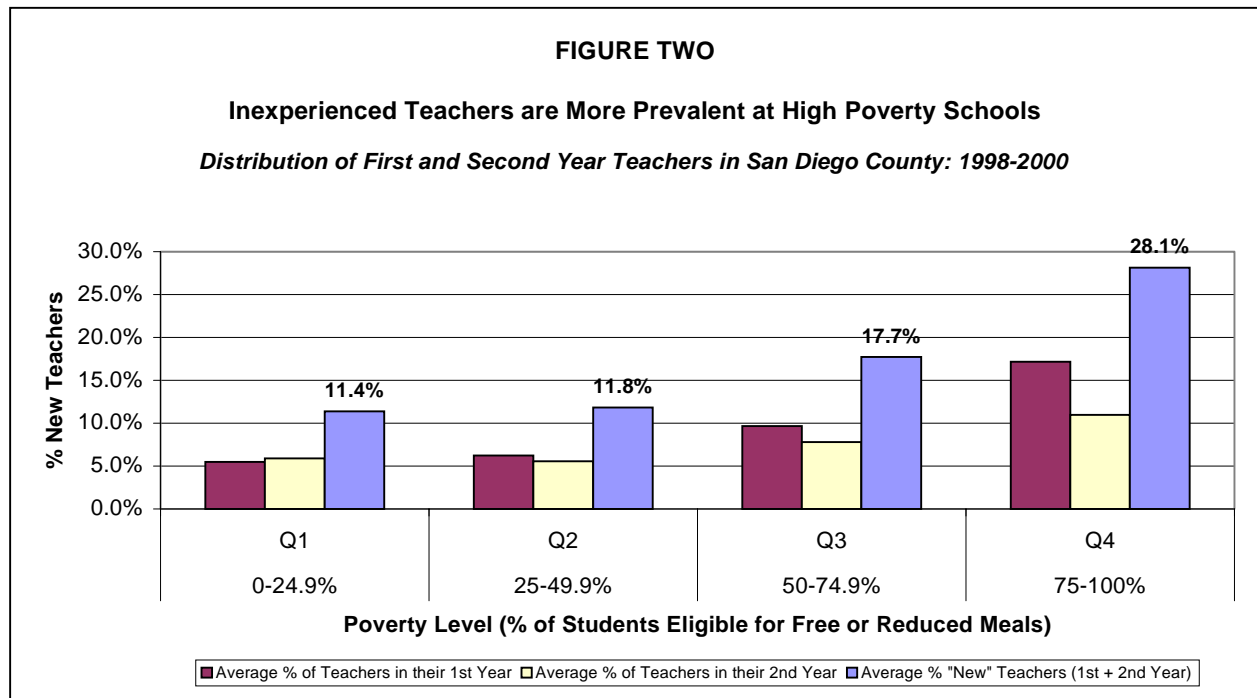
Figure One shows the distribution of new teachers in San Diego County schools by the level of school site achievement. (For the purposes of continuity, all of the displayed data reference the term “new teacher” to mean any teacher in their first or second full year of teaching.) In this graph schools are distributed into quintiles using their 1999 ranking on the California State Academic Performance Index (API), which is based primarily on student performance on the Stanford-9 standardized test. While this assessment has its limitations, this is the only comprehensive measure of school performance that can be applied to public schools in San Diego County.

As noted in Figure One, students at API 1 and 2 schools (the lowest levels of performance) typically encounter faculties where almost one in three teachers are in their first or second year of teaching. By contrast, the highest achieving schools in the region (API 9 & 10 schools) have faculties where approximately 11 percent of the teaching force is new to the profession. The

lower the level of student performance in a school in San Diego County, the more likely it is that many teachers at that school are new to teaching.

➤ **High poverty schools have greater numbers of new teachers.**

There is a high level of correlation between poverty and low student achievement in American schools. While there is abundant evidence that students at high poverty schools can achieve at very high academic levels when provided with high expectations and strong learning opportunities, most high poverty schools lag behind their wealthier counterparts. What is typically given less attention is the fact that high poverty schools often possess less instructional capacity than more affluent school sites. While federal and state programs provide extra dollars, technology and other types of resources to high poverty schools, limited energy is directed to encouraging very high quality teaching on these campuses.



As shown in Figure Two, at schools in San Diego County where more than 75% of the students are eligible for free and reduced meals programs, 28.1% of the teachers are in their first or second year of teaching. Over one in ten teachers is only in the first year of their teaching career. By contrast, at schools where less than 25% of the students are eligible for free and reduced meals programs, approximately 11% of the faculty is composed of “new” teachers. Here the

data is drawn from the combined numbers of new teachers for the academic years 1997-1998, 1998-1999 and 1999-2000. However, it's worth noting that this is a consistent pattern that is observable in each of the three years.

The gap in teaching experience by poverty grew worse in 1998-1999 and the declined slightly in 1999-2000. This may be a reflection of the impact of class size reduction measures in the early primary grades in California. As new teaching opportunities were created in more affluent elementary schools, more experienced teachers may have left high poverty schools in 1998 and 1999 to fill these positions.

➤ **Schools with minority students are more likely to have inexperienced teachers.**

Numerous studies across the United States have documented the academic achievement gap between white public students and their minority counterparts. African-American and Latino 17 year-olds, for example, perform on standardized reading and mathematics assessments at levels roughly comparable to the performance of white 13 year-olds.¹¹ The origins and causal factors of the academic achievement gap have been hotly debated, but, as described above, there is strong evidence that school-site factors, particularly the quality of teaching provided to minority students, plays an important role in explaining the gap.

Previous research by San Diego Dialogue has suggested that lower expectations are held for students at high poverty schools and schools with high minority enrollments in San Diego.¹² The data shown here completes another piece of this puzzle, by indicating that schools with high numbers of ethnic minority students are more likely to have inexperienced teachers.

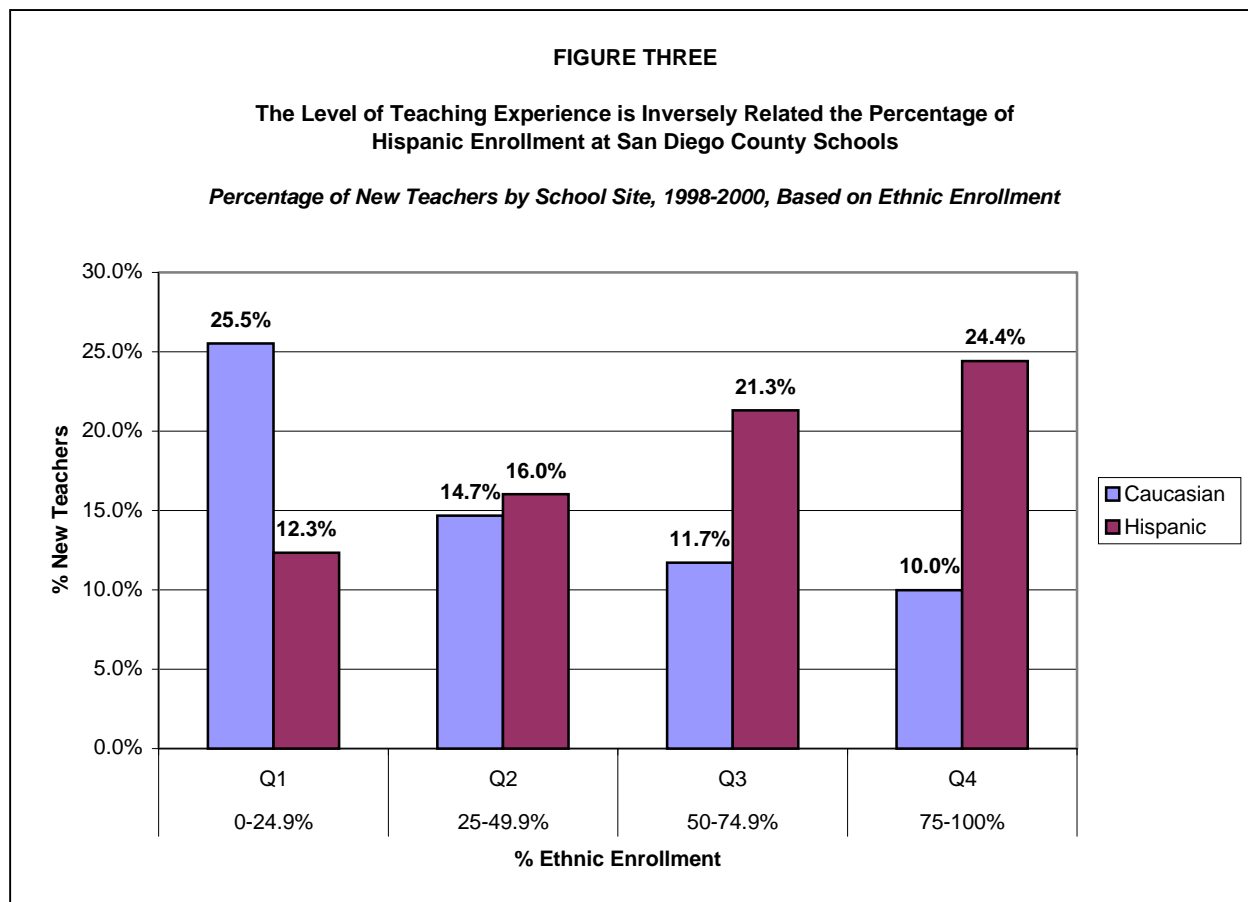


Figure Three displays data on the number of new teachers at San Diego County public schools based on the percentage of Caucasian and Hispanic students at the school sites in 1999-2000. The first part of the graph (the blue bars) shows the percentage of new teachers in our schools based on what percentage of the school's enrollment is Caucasian. The second part of the graph (the red bars) show the percentage of new teachers at County schools based on what percentage of the student body is Hispanic. Again, while combined data is presented here for the number of new teachers at the schools in 1997-1998 through 1999-2000, the pattern is consistent across each of the three years. Based on these data:

- A school with a 75% or more Hispanic student enrollment is twice as likely to have new teachers than a school with 25% or fewer Hispanic students.

- Any student at a school with 25% or fewer Caucasian students has approximately a one in four chance of being assigned to a new teacher.
- The more “white” the student population at a school, the lower the chance of encountering a teacher new to the profession.

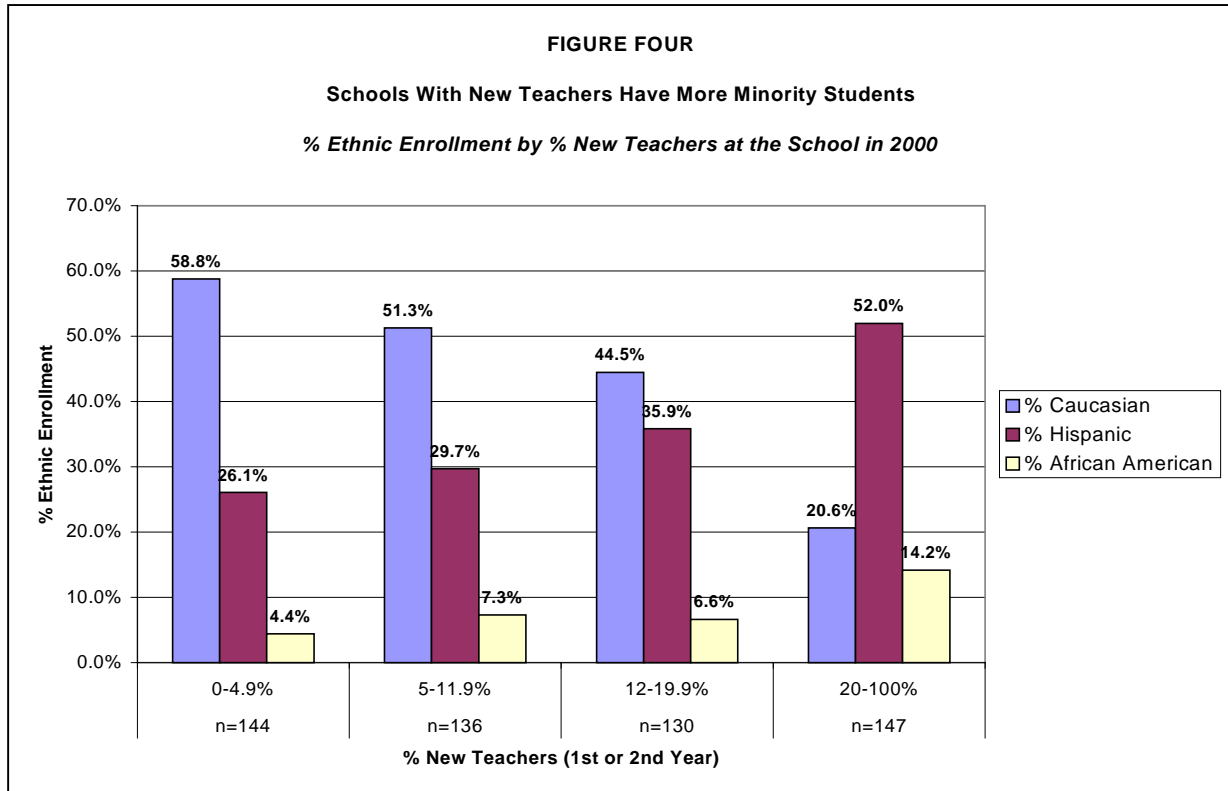


Figure Four provides another way of looking at the same phenomenon. These data show the distribution of concentrated teaching inexperience for the year 1999-2000 only. The County’s public schools have been divided into four roughly equal groups, based on the percentage of their faculties who are in their first or second year of teaching. As displayed in Figure Four, the schools with the fewest new teachers have the lowest African American and Hispanic student enrollments and the highest levels of white student enrollment. By contrast, the schools with the greatest number of new teachers (over 20% of the faculty in 1999-2000) have the most Hispanic students and the most African-American students. Schools with more inexperienced teachers in San Diego County are predominantly attended by minority students.

B. The Nature of Concentrated Teaching Inexperience in San Diego County

The Scope of the Challenge

While the above data describe the gaps in teaching experience in San Diego County, it is also important to consider the total scope of this phenomenon. Of the schools examined in this study, 85 had an incidence in at least one of the last three academic years in which 35% or more of the faculty were in their first or second year of teaching. On average, about 50 schools hit or exceeded this threshold in one of the years examined. There were 32 schools that were at or above 35% in two of the three years, and a hard-core group of 13 schools that exceeded this level in all three years. In the most extreme cases, schools possessed faculties in some years where over half of the teachers were in only their first or second year of teaching.

A Consistent Phenomenon

As noted previously, the phenomenon of concentrated teaching inexperience in high poverty and high minority schools can be consistently observed in each of the academic years examined in this study.

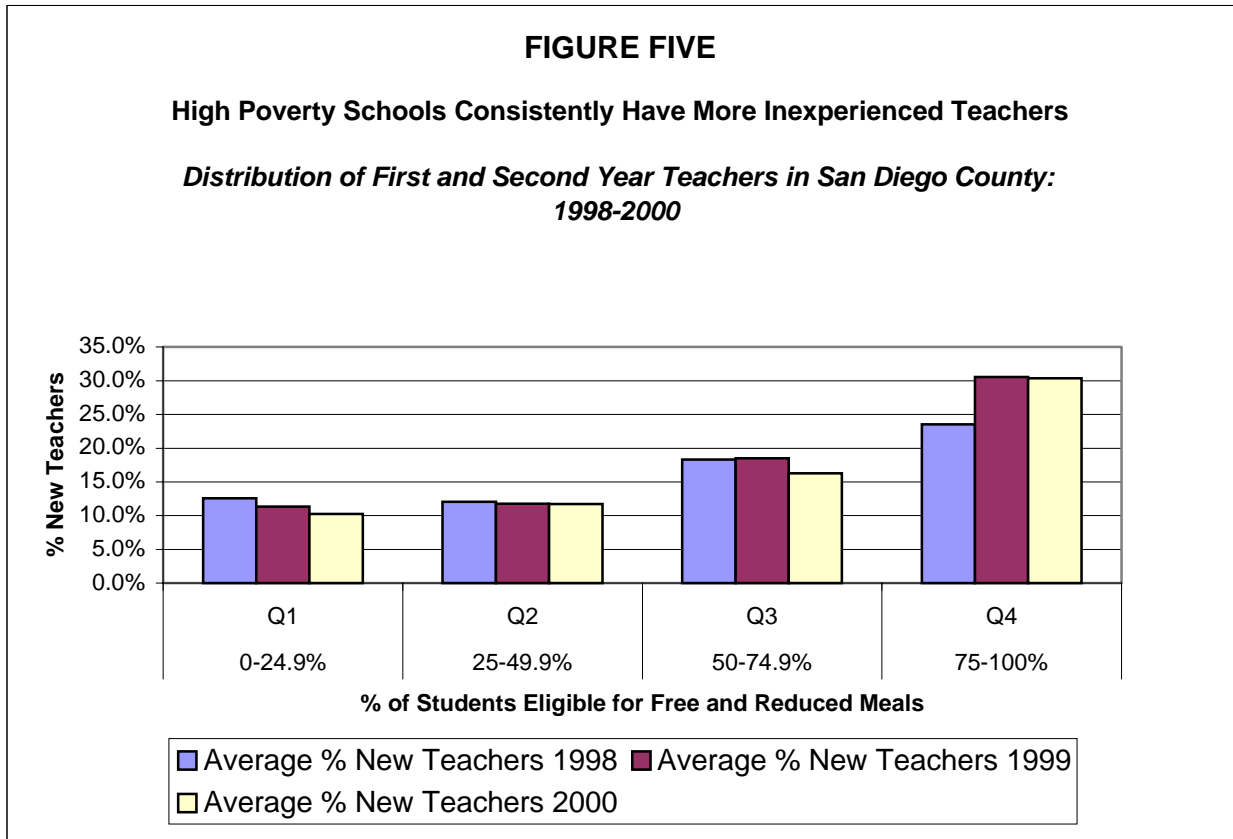


Figure Five reinforces this point, by displaying the percentage of faculty in their first or second year of teaching by school poverty level for each of the individual years. As shown in Figure Five, the gap between high poverty and low poverty schools exists for each year. It is also worrisome to note that the gap seems to be getting worse. The percentage of new teachers at the most affluent schools has actually declined in recent years, while the percentage of new teachers at schools with the greatest number of poor students has risen.

The Case of San Diego City Schools

In examining these data, one pattern that stood out was the large numbers of schools in San Diego Unified School District where a significant percentage of the faculty were new to the teaching profession. As the region’s largest school district, and as a district with a large number of high poverty schools, it is not surprising that many of the schools facing this challenge come

from San Diego Unified. But the set of schools facing extreme cases of concentrated teaching inexperience is drawn overwhelmingly from this school district. In 1999-2000, for example, there were 52 schools in the study's sample where over 35% of the faculty were in their first or second year of teaching. Of these 52 schools, 43, or 83%, are part of San Diego Unified.

Why is this the case? One possibility is that San Diego Unified, because it is such a large school district, offers greater internal labor mobility to its teaching corps. It is an easier decision for teachers to elect to transfer within the school district. Also, unlike many large urban school districts, San Diego Unified spans both very poor and very affluent portions of the metropolitan region. Therefore when teachers who have gained experience wish to seek positions at more affluent school sites, they can do so while still remaining employed with the District. Moreover, the "post-and-bid" system operated by the District provides more senior teachers with the first opportunity to apply for open positions at a school site. This system may accelerate the migration of more experienced teachers out of more challenging school settings. Last, it may be that school site conditions at certain schools in San Diego Unified particularly encourage more experienced teachers to leave these sites as soon as possible. Because of the limitations of the CBEDS data, which provide merely a year-to-year snapshot and do not allow for tracking the movement of individual teachers over the course of their careers, other methods of data collection and analysis will likely be required to better understand the unique situations facing teachers at San Diego City Schools.

C. Teacher Credentialing

An alternative measure of teaching capacity is whether a teacher holds a full and appropriate teaching credential. Of particular concern is the practice of granting emergency teaching credentials to new employees who have not acquired a postgraduate degree in education. Many of the teachers awarded an emergency credential have not undergone a student teaching experience and have no prior experience in the classroom.

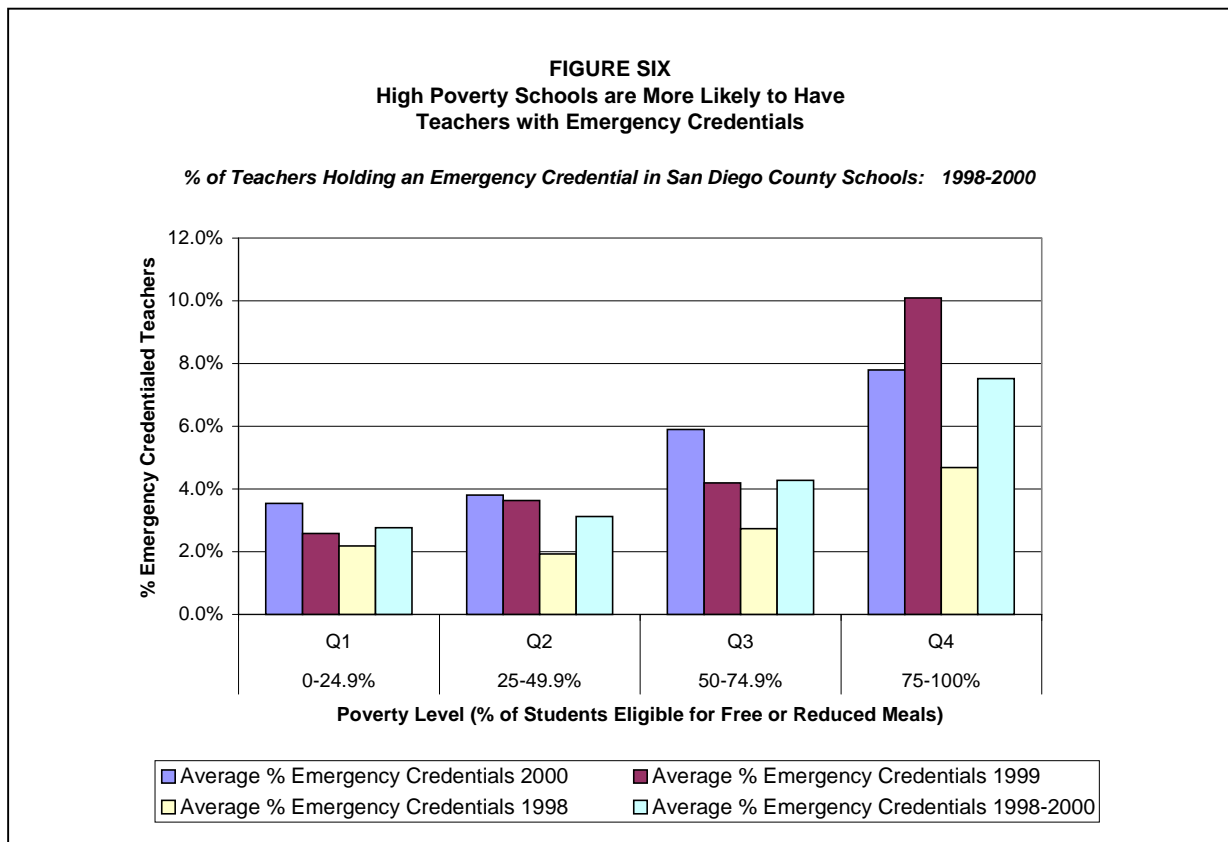
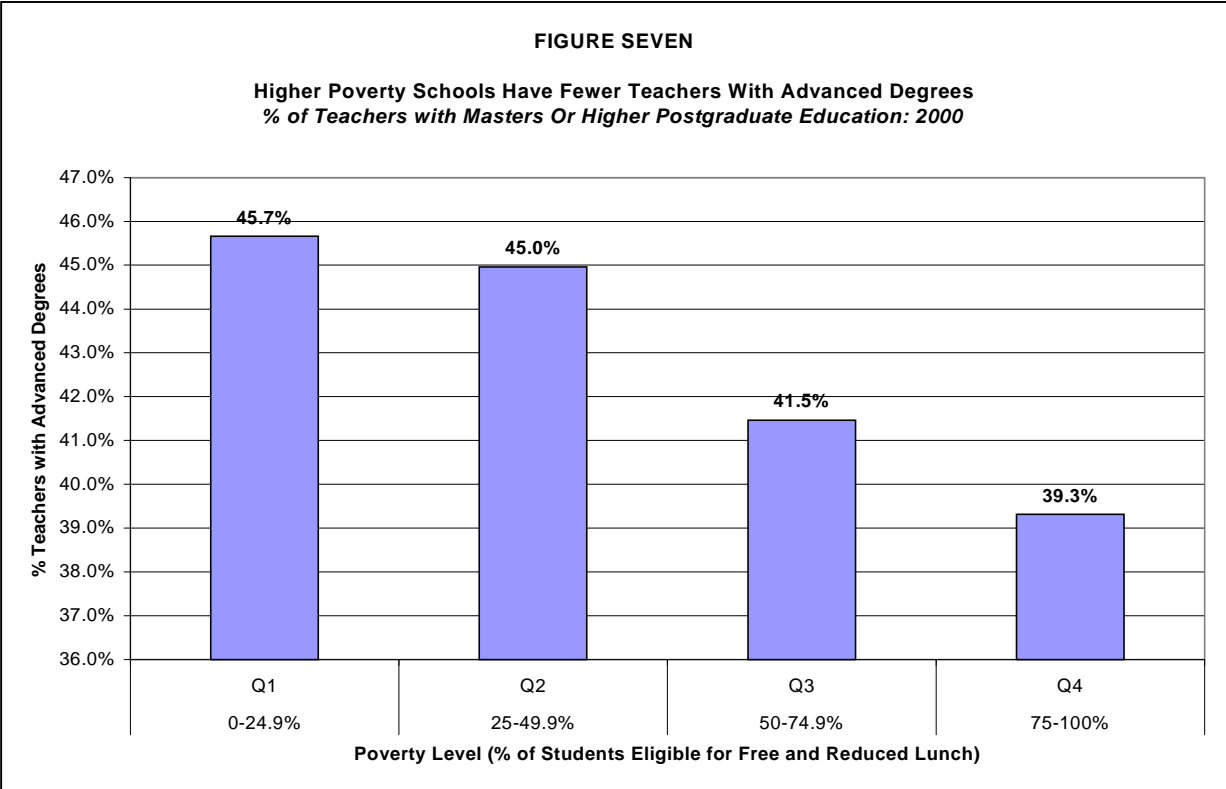


Figure Six summarizes data regarding teachers teaching between 1997-98 and 1999-2000 in San Diego County schools with an emergency teaching credential. As shown in Figure Six, students in the highest poverty schools are over three times more likely to encounter a teacher with an emergency credential than students in the region’s most affluent schools. The gap in the distribution of emergency credentialed teachers reached a high point in 1998-1999, when one in ten teachers at schools where more than 75% of the students were eligible for free and reduced meals were teaching on an emergency credential. While that percentage declined in 1999-2000,

it is still twice as high as the level of emergency credentialed teachers in the region’s wealthiest schools. Again, the “spike” observed in 1998-1999 may be related to the expansion of class size reduction in California during that academic year.

D. Higher Education

Another useful measure of teaching capacity is the percentage of teachers at a school site who have continued their postgraduate education after receiving a teaching credential. Attainment of additional postgraduate degrees is a particularly important indicator of teachers acquiring deep content knowledge in their subject matter, which has been demonstrated to be critical for assisting all students to achieve high academic standards.



The percentage of teachers in the San Diego region who have attained additional levels of higher education is quite substantial. Nevertheless, the distribution of these highly trained teachers remains unequal across the region’s schools. As shown in Figure Seven, even in the highest poverty schools in the region, over one-third of the faculty has pursued additional education.

However, in those schools where less than 25% of the students are eligible for free and reduced meal programs, over 45% of the faculty have pursued education beyond their credentialing program. Teachers' pursuit of continuing education reflects their commitment to acquire deeper content knowledge and greater skills as they progress in the profession. It also reflects the fact that most teachers progress up a fixed salary scale based on only two factors: the number of years they have been teaching and the level of postgraduate education they have attained.

E. Teaching Out of One's Subject Area

At the secondary level, an important measure of teaching capacity is whether or not the teacher has pursued any postsecondary education in the subject matter they are teaching. Specifically, does a teacher have at least a college minor in their subject area? Unfortunately there is no good data source that paints a comprehensive picture of this indicator for schools in California. In 1999 San Diego Dialogue published a study that reported findings from a review of secondary teachers' educational training in the comprehensive high schools of San Diego Unified. The study (Mehan and Grimes, 1999) found that over 30% of English and mathematics teachers in San Diego Unified's high schools did not possess even a college minor in the subject they were teaching. Interestingly, however, there was little difference between high poverty and low poverty schools for this measure of teaching capacity. While there was a small gap (5 percentage points) between high poverty and low poverty schools, about three out of ten teachers consistently lacked this level of academic preparation.¹³

IV. Considering the Distribution of Teaching Capacity: A Brief Discussion

Based on the data reported above, there is clearly a gap in teaching capacity between various types of public schools in San Diego County. Low achieving schools, high poverty schools, and schools with high minority enrollments have consistently received less experienced and less prepared teachers than their counterpart schools in the region's school districts. This fact has enormous importance for the goal of ensuring that every child in our region meets rigorous academic standards. It confounds accountability systems that seek to hold school sites accountable for the academic performance of their children. It frustrates professional

development strategies when freshly trained teachers leave the most challenging schools. It undermines efforts to ensure that well-trained and highly qualified graduates of our schools compose the region's future workforce. And it poses troubling questions for how education is organized in our increasingly diverse society.

This being noted, it is also important to stress a few points about these data. First and foremost it bears repeating - **an inexperienced teacher is not a bad teacher**. Many teachers are equipped to conduct excellent teaching from almost the first day they walk into the classroom. But a concern arises when there is an excessive concentration of inexperience, in which significant percentages of the faculty are brand new to teaching. This means they have fewer experienced peers to turn to for support. It also makes the job of the principal as an instructional leader much more difficult, as they are simultaneously challenged to coach and assist multiple faculty members who are new to the profession.

Second, these data do not mean that school systems just need to be more selective about who they hire to enter the teaching profession. California already faces an intense teacher shortage. Over half of all classroom teachers in California are expected to retire within the next ten years. The shortage of skilled teachers is particularly pronounced in mathematics and the sciences, as labor market entrants with skills in these fields face very attractive employment opportunities in the high-technology segments of the private sector. The fact is that San Diego County needs more new teachers, not fewer. But many policy-makers and civic leaders believe they should be more equitably distributed throughout our school systems.

One of the purposes of this research is to help policy-makers better understand the phenomenon of teacher turnover. In recent focus groups conducted by San Diego Dialogue, both teachers and principals asserted that inexperienced and inadequately trained teachers are disproportionately concentrated in our region's lowest performing schools. They described a constantly churning labor market, in which new teachers enter "hard-to-staff" schools, but then depart as soon as employment opportunities open up at more advantaged locations. These statistical findings seem to bear out that claim, as new waves of first and second year teachers appear year after year in the region's most disadvantaged schools. It is worth noting that while class size reduction and

teacher retirement are likely playing a role in the growth of new teachers at high poverty schools, these factors alone can't explain the phenomenon. Over the past three years the number of new teachers entering "hard-to-staff" schools has exceeded the rate at which the total size of the faculty at these schools is growing.

Finally, strategies to reverse this phenomenon must take into account the fact that teaching conditions vary by school site. Schools in high poverty communities are often overcrowded, have greater incidences of health and disciplinary problems, possess outdated or inadequate supplies and instructional materials, and experience higher crimes rates in their surrounding neighborhoods. Efforts to induce experienced, high quality teachers to remain or come to teach at these schools must include concrete strategies to make the school site environment equal or preferable to the conditions at the most affluent schools in the region.

What Should Be Done?

Over the next decade, a number of forces, including teacher retirement and growing student enrollment, are expected to drive a strong demand for teachers. Districts and schools will be challenged to recruit not just large numbers of teachers, but large numbers of *quality* teachers. This will be no small feat, given a number of significant barriers to obtaining a high-quality teaching force, especially in poorer urban schools where the quality of teaching staffs is often the weakest. The search for high-quality teachers is complicated by the new reality that an effective teacher will be expected to educate an increasingly diverse student body exhibiting a wide range of learning styles. Students will increasingly differ racially, culturally and linguistically.

The challenge of recruiting talented teachers is especially daunting in rapidly growing states like California, Texas, and Florida. These states confront what some have labeled a crisis situation, whereby schools, many of which are located in inner-city neighborhoods, are being held accountable for low student achievement without the benefit of quality teachers. According to one state-focused report, California districts, whose reduced class sizes have exacerbated the growing demand for new teachers, have hired tens of thousands of teachers who do not meet minimum teaching qualifications.¹⁴

A confluence of forces --- including the importance of high-quality teaching to the success of standards-based reform, a burgeoning need for more teachers, and the more demanding nature of the teaching job itself -- creates a significant opportunity for constructive change in the way we recruit, train, retain, and support teachers. Fortunately, a growing body of knowledge is developing about strategies for improving teacher quality. Education experts repeatedly stress that there exists no more productive use for an education dollar than to spend it on recruiting high-quality teachers and ensuring that those teachers are equipped with the best professional development available.¹⁵

Among the promising strategies to encourage an equitable distribution of quality teachers are the following:

- Community-based support systems, including the creation of local education foundations, which channel resources to improve the environment for teaching and learning at high poverty schools.
- Investments in professional development, including peer-to-peer learning, that are disproportionately concentrated in low-achieving, high poverty schools.
- Extra supports for novice teachers, including dedicated mentoring relationships with experienced teachers.
- Short-term monetary incentives for multi-year commitments from outstanding teachers to teach at high poverty schools.
- Subsidized opportunities for continuing education, including the pursuit of specialized credentials, postgraduate degrees, and national-level certifications of deep content knowledge.

- The recruitment of very high-quality learning specialists, particularly in core subject areas such as reading and mathematics, which are then deployed to school sites to complement and support classroom instruction.

Most significantly, reform advocates call upon everyone from policymakers and school administrators to parents and community leaders to play a role in ensuring that *all* students are educated by teachers who care deeply about children, have mastery of their subject matter, know how to teach it, and understand the many ways in which children learn.

Acknowledgements

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For more information on the work of San Diego Dialogue, please visit our website:

www.sddialogue.org

Appendix I: Data Sources

CBEDS (California Basic Educational Data System) is based on an annual data collection conducted in October of each academic year. The CBEDS process collects a variety of data elements from California public schools (K-12), including data on enrollment, graduates, dropouts, vocational education, alternative education, and the numbers and characteristics of certificated and classified staff. Following each annual collection cycle, the Educational Demographics Office at the California Department of Education performs a comprehensive integrity review of data obtained from the CBEDS. Local Educational Agencies (LEAs) have an opportunity to review their data and report errors or changes prior to when the file is certified and released to the public.

Among the indicators collected by CBEDS are: 1) the number of teachers at the school site, 2) the number of teachers in their first year of teaching and 3) the number of teachers in their second year of teaching. CBEDS also collects information on the number of teachers at the school site teaching on an emergency credential and on the number of teachers who have achieved various levels of postgraduate education.

The CBEDS data on teaching experience, credentialing and postgraduate education are available from the California Department of Education via its website (www.cde.gov).

The data sample referenced in this report includes all regular elementary, middle and high schools in San Diego County. They also include charter schools and continuation high schools and junior high schools. They exclude any school labeled by the California Department of Education as alternative, special education, community day and k-12 schools. These types of schools were excluded due to incomplete data for the majority of non-traditional schools.

Notes

¹ Kati Haycock, "Good Teaching Matters," Thinking K-16, Vol 3, Issue 2, *Washington, D.C.: The Education Trust, Summer 1998*.

² Ronald Ferguson. "Evidence That Schools Can Narrow the Black-White Test Score Gap," Malcolm Wiener Center for Social Policy: Cambridge, MA., 1997.; Ronald Ferguson and Helen F. Ladd, "How and Why Money Matters: An Analysis of Alabama Schools," in Helen Ladd (ed), Holding Schools Accountable: Performance-Based Reform in Education, Brookings Institute: Washington, D.C., 1996.

³ Dan D. Goldhaber and Dominic J. Brewer, "Evaluating the Effect of Teacher Degree on Level of Educational Performance," Developments in School Finance, 1996.

⁴ William L. Sanders and Joan C. Rivers. "Cumulative and Residual Effects of Teachers on Future Students Academic Achievement," Knoxville: University of Tennessee, 1996.

⁵ William Sanders. "Teachers, Teachers, Teachers!" *Blueprint Magazine*, The Democratic Leadership Council, Fall 1999. Available on the web at www.ndol.org/blueprint/fall/99/solutions4.html.

⁶ U.S. Department of Education, National Center for Education Statistics. *Teacher Quality, 1999*; Also Richard Ingersoll, University of Georgia, Unpublished, 1998 as cited in Kati Haycock, "Good Teaching Matters," Thinking K-16, Vol 3, Issue 2, *Washington, D.C.: The Education Trust, Summer 1998*. Also Sanders, 1996.

⁷ National Center for Education Statistics, Fast Response Survey System, 1998. *Teachers Survey on Professional Development and Training*.

⁸ U.S. Department of Education, *Promising Practices: New Ways to Improve Teacher Quality*. Washington, D.C.: Author, 1998.

⁹ Ferguson and Ladd, 1996; and Robert P. Strauss and Elizabeth A. Sawyer, "Some New Evidence on Teacher and Student Competencies," *Economics of Education Review*, 1986 as cited in Haycock, 1998.

¹⁰ For a complete discussion of the origins of the data reported in this document, please see Appendix I.

¹¹ National Assessment of Educational Progress (NAEP), Long Term Trends Summary Tables, 1999.

¹² See Hugh Mehan and Scott Grimes, "Measuring the Achievement Gap in San Diego City Schools," *San Diego Dialogue*, 1999.

¹³ *Ibid*, p. 9.

¹⁴ The Center for the Future of Teaching and Learning et. al., *Teaching and California's Future: the Status of the Teaching Profession*, December 1999.

¹⁵ R. Greenwald, L. V. Hedges, and R.D. Laine, "The Effect of School Resources on Student Achievement." *Review of Educational Research* 66:3, 1996, p. 361