

CALIFORNIA EDUCATIONAL OPPORTUNITY REPORT



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Listening to Public School Parents

California Educational Opportunity Report:
Listening to Public School Parents

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UCLA's Institute for Democracy, Education, and Access
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UCLA/IDEA and **UC/ACCORD**

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The California Educational Opportunity Report: Listening to Public School Parents

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Introduction

In spring 2008, UCLA's Institute for Democracy, Education, and Access (IDEA) convened a series of focus groups with a representative sample of California public school parents. We began the interviews by asking for a general assessment of life in California and a description of California's high schools. A number of parents expressed anxiety about California's economy and almost all shared concerns about California's schools. Many acknowledged their appreciation for local teachers and school leaders, but conceded that the system often does not provide these educators with the tools they need to be successful. Almost half of the parents noted that California's high schools lack critical resources and programs, and many also pointed out that these problems are unevenly distributed across the state. Several parents worried that the weakening economy would lead to further cuts to educational programs.¹

In the months since these parents shared their concerns, the state's economy has gone from bad to worse. An additional half a million workers are unemployed and the production of goods and services has plummeted.² California faces its most serious fiscal crisis in decades. Many Californians are hurting, and the state has less capacity to address these needs. The question is no longer whether there will be cuts to California's public schools but how deep these cuts will be.

Clearly, the economic crisis calls for renewed attention to the relationship between educational investment and the state's economic health. What are Californians' educational goals, and what conditions are needed to attain the goals? As the state grapples with its immediate crises, it cannot neglect planning for an education system that does not just stumble from one crisis to the next. Instead, the state must begin a trajectory that both mitigates short-term harm *and* looks ahead to long-

term solutions. "Awaiting economic recovery" is not a plan. What is needed now is an honest appraisal of where we are, productive steps we can take immediately, and where we want to go.

The *California Educational Opportunity Report* draws on the public perceptions revealed in our focus groups along with the most recent state data to examine the relationship among educational goals, achievement, and conditions in California's public schools. We compare California's public schools to schools across the nation, and we consider differences among schools in the state. As the latest in a series of annual reports on educational opportunities in California, this report:

- Explores the gap between achievement in California schools and a) the aspirations of California's students and parents, as well as b) the future demands of California's economy;
- Documents California's racially disparate public school system;
- Investigates the conditions of California's public schools, highlighting both a lack of quality overall and inequality between different groups of schools;
- Identifies the increased likelihood that California schools will fail to meet federal accountability standards;
- Concludes by pointing to the need for alignment among California's educational finance system, the aspirations of the public, the conditions of the schools, and the demands of the accountability system.

NAEP 8th Grade Math Results 2007

STATE	Average Scale Score
Massachusetts	298
Minnesota	292
North Dakota	292
Vermont	291
Kansas	290
New Jersey	289
South Dakota	288
Virginia	288
New Hampshire	288
Montana	287
Wyoming	287
Maine	286
Colorado	286
Pennsylvania	286
Texas	286
Maryland	286
Wisconsin	286
Iowa	285
DoDEA	285
Indiana	285
Washington	285
Ohio	285
North Carolina	284
Oregon	284
Nebraska	284
Idaho	284
Delaware	283
Alaska	283
Connecticut	282
South Carolina	282
Utah	281
Missouri	281
Illinois	280
National Public	280
New York	280
Kentucky	279
Florida	277
Michigan	277
Arizona	276
Rhode Island	275
Georgia	275
Oklahoma	275
Tennessee	274
Arkansas	274
Louisiana	272
Nevada	271
California	270
West Virginia	270
Hawaii	269
New Mexico	268
Alabama	266
Mississippi	265
District of Columbia	248

I. The Many Education “Gaps”: Educational Attainment and What Californians Want and Need

I think there’s some kids that really kind of get left behind. — Mother of California public school student

In recent years, the federal No Child Left Behind Act (NCLB) has focused attention on the relationship between the test scores of low-income, Latino, and African American students and their middle class, white and Asian peers. Many parents in our focus groups echoed this concern with equity, though they often addressed differences between (rather than within) public schools. “It’s very uneven, depending on where you live,” one mother noted. Another worry aired in the focus group centered on California students falling behind students in other states. This second achievement gap represents the difference between what California public school students achieve today and what they will need to secure decent-paid work in a technology-driven global economy.

Certainly, many California public school students achieve at the highest level. Yet, the concerns of California’s parents reflect the overall performance of California’s students on a number of critical measures of achievement and educational attainment. The results of the most recent National Assessment of Educational Progress, or NAEP, are a case in point. NAEP is often called the “nation’s report card” because it compares student achievement in reading and mathematics across all states at grades 4 and 8. In reading, California ranked 48th for 4th graders and 47th for 8th graders. In mathematics, California ranked 46th for 4th graders and 45th for 8th graders.

Importantly, all groups of California’s students perform poorly on the NAEP relative to their peers in other states. California’s middle-class students rank below middle-class students in most other states in reading and mathematics.³ Similarly, California’s white 8th graders score well below white 8th graders in most other states in mathematics and they rank below white 8th graders in all but nine other states in reading.⁴

Many California students are not successfully completing their K-12 education. The state’s most recent data reports on the progress of the Class of 2007. More than half a million students enrolled as

SIDEBAR:

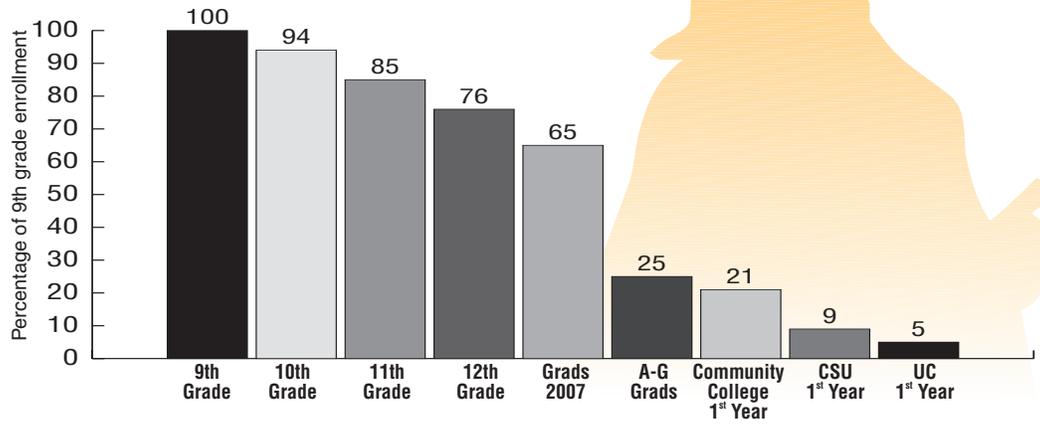
National Assessment of Educational Progress (NAEP) Results by State – 8th Grade Math

NOTE: The NAEP Mathematics scale ranges from 0 to 500. Observed differences are not necessarily statistically significant.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment. Available online at <http://nces.ed.gov/nationsreportcard/nde/statecomp/>

California

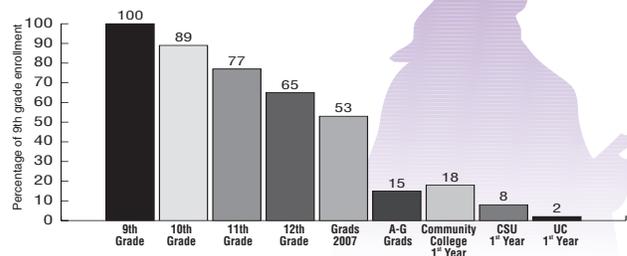
Class of 2007: Pathway to College



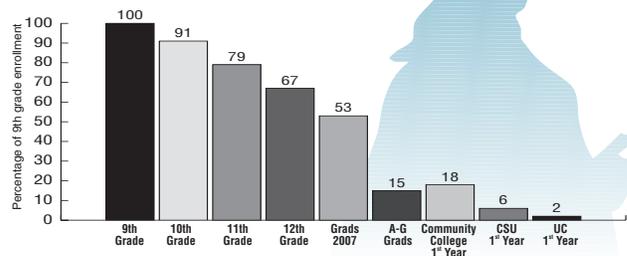
9th graders in California public high schools in the Fall of 2003. In June 2007, fewer than 360,000 students graduated. The original class shrunk by more than a third in four years. This decline was comparable to that experienced in the Class of 2006—the first group of students to be denied diplomas if they failed to pass California’s High School Exit Exam. California’s graduation rates for 2006 and 2007 were lower than any year since 1997.⁵ California graduates a smaller proportion of its 9th grade class than most other states.⁶

The number of students who graduated having successfully completed the A-G course sequence required for admission to California’s four-year public universities was one fourth of the original size of the class. In fall 2007, roughly 70,000⁷ California public high school graduates enrolled as first-year students at a California State University or University of California campus. This figure represents about 14% of the original size of the Class of 2007. California sends a smaller proportion of students directly to four-year colleges and universities than almost any other state. The College Board reports that California ranks 48th in the percentage of its senior class that enrolls in a four-year college the following year. This figure likely understates the progress of California students toward four-year college degrees as it does not account for students who begin their postsecondary education at community colleges before transferring to four-year colleges and universities.

California African American Students Class of 2007: Pathway to College



California Latino Students Class of 2007: Pathway to College



Produced by UCLA/IDEA and UC/ACCORD

Nonetheless, California ranks well below the national average in the proportion of students who receive a bachelor’s degree within six years of graduating from high school.⁸

In short, few of the students who enrolled as 9th graders in fall 2003 graduated high school and enrolled in four-year colleges and universities four

years later. And the rate of success for some groups was much lower than for the state as a whole. Fewer than 60 of every 100 Latino and African American 9th graders in the original class graduated in 2007. Fewer than 15 of these students graduated having fulfilled their A-G requirements. Only eight of every 100 Latino and African American 9th graders in the original cohort matriculated in California State University or University of California campuses.

California's high school graduation and college-going rates do not match the high aspirations of California's students and parents. The public debate has often been dominated by the notion that poor performance is the result of low expectations. This certainly is not the case with regard to students and their parents. Almost nine in ten California 10th graders expect to graduate from high school, and a strong majority plan to attain a bachelor's degree or higher. These high expectations are shared by students from every racial/ethnic group.⁹ California's parents hold even higher aspirations for their children. A recent public opinion survey found that 87% of parents want their children to attain a bachelor's degree. At least eight in ten parents of every racial/ethnic group reported this desire for their children to complete a four-year degree and/or a graduate program.¹⁰ It is clear that the problem is not primarily one of low expectations of what students can accomplish but of the inability of our educational system to meet widely held high expectations of what it should deliver.

The educational goals of California's students and parents reflect national trends over the last three decades. Recent surveys by the National Center for Educational Statistics find that most high school students now aspire to a four-year college degree or higher, and almost all parents share this goal for their children.¹¹ The breadth of this commitment to college differs from public attitudes in the early 1980s. The proportion of 12th graders who reported that they expect to attain a bachelor's degree or higher nearly doubled (from 35% to 69%) between 1982 and 2003.¹² Similar trends hold for parents.¹³

That students' and parents' educational aspirations have risen is not surprising given profound changes in the economy in recent decades. Levy and

Murnane have documented how the introduction of new technology has led to a reduction in routine work (which can be accomplished through computer programs) and growth in jobs that require decision-making and creativity.¹⁴ Since 1973, the proportion of workers with postsecondary education doubled, from 28% to 59%. During this period, the value of educational credentials rose as well. Between 1979 and 1999, the difference between the average wage of high school graduates and workers with some college education rose from 43% to 73%.¹⁵ Analysis of California data by Manuel Pastor suggests that this "wage premium" has continued to grow in the first years of the 21st century.¹⁶

A recent study by the Public Policy Institute of California (PPIC) suggests that the state's demand for highly skilled workers will increase over the next 15 years. The proportion of jobs requiring a bachelor's or graduate degree is likely to grow from 31% today to 41% in 2025.¹⁷ PPIC researchers suggest that migration of highly educated workers from other states or countries is unlikely to fulfill this demand.¹⁸ Already, there is a yawning gap in California between educational aspirations and attainment. PPIC's projections suggest that California's public education system will need to improve dramatically to fulfill these expectations and meet the needs of California's economy.



II. Segregation and the Racial Demographics of California's Public Schools

What concerns me most of all is California is a very diverse state, but you don't see that in the school system. — Mother of California public school student

Transcript analysis of our focus groups with parents revealed their sophisticated understanding of how school demographics matter. Most parents want public schools to help their children develop the skills necessary to navigate and contribute to diversity in the workplace and civic life. Schools that bring together students from different backgrounds offer a unique opportunity for the development of such skills. Parents also understand that the race and social class of a school's student body is frequently closely related to the resources that school receives. Many focus group participants reported (and expressed concern) that the best conditions prevail in schools with a critical number of affluent families. In short, most parents recognize both the democratic purposes of equal and common schooling, and the prevailing pressures through which school demographics influence educational opportunities.

Forty-seven percent of California's secondary students are white, Asian, Pacific Islander, or Pilipino.¹⁹ Fifty-one percent are Latino, African American, or American Indian—the three groups that are underrepresented in California's higher education system.²⁰ Although California's public secondary schools (including middle schools and high schools) serve a racially diverse student body, California is one of the nation's most racially segregated states for African American and Latino

students.²¹ Approximately three-quarters of African American and Latino students are enrolled in secondary schools where the majority of students are from underrepresented groups, and a sizeable portion of these students attend intensely segregated schools—schools where 90-100% of the students are from underrepresented groups. By contrast, the vast majority of California's white and Asian students attend secondary schools where less than half of the students are from underrepresented groups. Fewer than 2% of white and Asian students are enrolled in intensely segregated schools.

In the following tables and throughout the remainder of the report, we distinguish between three demographic categories of schools:

- **Majority white and Asian.** Schools that are composed of 0-49% underrepresented African American, Latino, and American Indian students;
- **Majority underrepresented students.** Schools composed of 50-89% underrepresented African American, Latino, and American Indian students; and
- **Intensely segregated.** Schools where 90-100% of the students are underrepresented African American, Latino, or American Indian students.

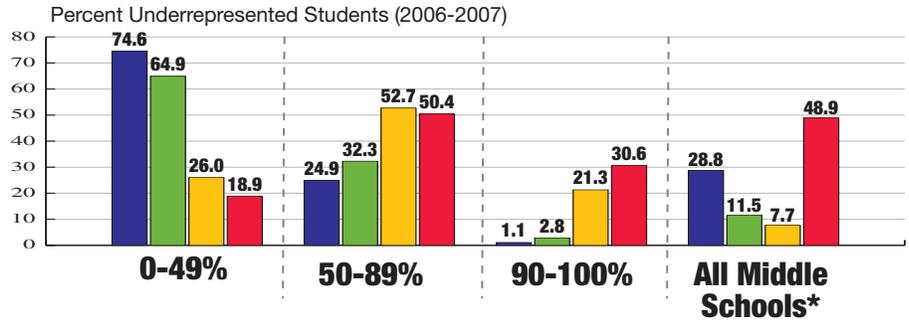


I like the diversity and the exposure the kids get ... I appreciate that.

— Father of California public school student

Racial Composition of California: Middle Schools 2006–2007

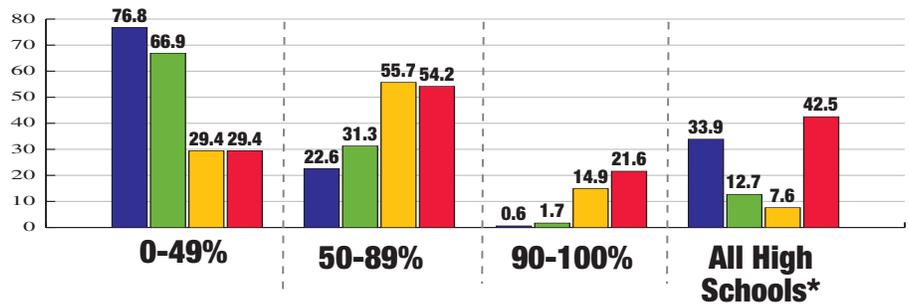
White Asian African American Latino



* All Middle Schools does not include American Indian or multi-racial students and hence totals add up to less than 100%.

High Schools 2006–2007

Percent Underrepresented Students (2006-2007)

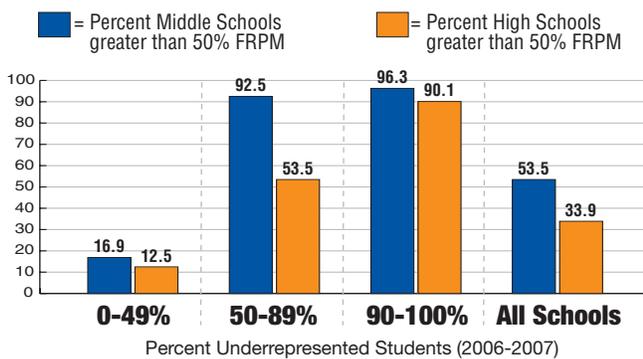


* All High Schools does not include American Indian or multi-racial students and hence totals add up to less than 100%.

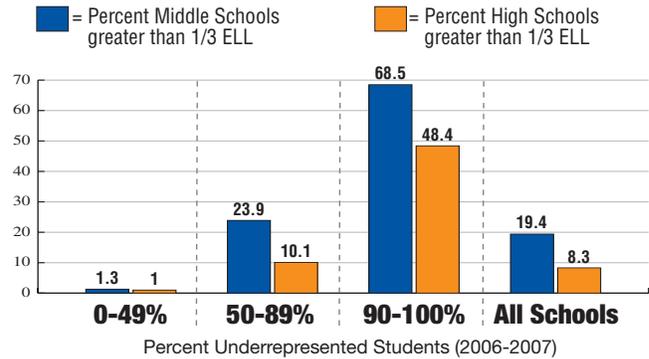


Intensely segregated schools are far more likely than other secondary schools to serve high concentrations of low-income students and students learning English. Almost all (96%) of the intensely segregated middle schools enroll a majority of low-income students. In 69% of these middle schools, at least one-third of all students are English Learners. In contrast, few middle schools with low percentages of underrepresented students have concentrations of low-income students and English Learners. As with middle schools, intensely segregated high schools are more likely than other high schools to enroll high concentrations of low-income students and English Learners. In fact, intensely segregated high schools are 48 times as likely as majority white and Asian high schools to enroll more than one-third English Learners.

Concentrations of Low-Income Students 2006-2007



Concentrations of English Learners 2006-2007



Average School Enrollment

Middle Schools

State	Middle Schools
Montana	126.6
South Dakota	153.1
Wyoming	264.1
Vermont	330.3
Iowa	337.5
Kansas	352.3
District of C	363.4
Maine	375
Oklahoma	379
North Dakota	400.6
New Mexico	402.6
Nebraska	408.3
Wisconsin	434.7
West Virginia	468.9
Arkansas	473.7
Illinois	487.2
New Hampshire	489.3
Ohio	492.2
Alaska	493.1
Missouri	497.4
Oregon	504.6
Idaho	505.6
Colorado	513.1
Louisiana	522.5
Michigan	538.6
Kentucky	567.4
Mississippi	568.5
Alabama	575.4
Washington	586.6
Connecticut	602.3
Indiana	602.4
Massachusetts	603
National Average	603.4
Tennessee	609.1
Minnesota	617.6
Texas	621.9
New Jersey	625.3
Arizona	627.2
South Carolina	630.8
Rhode Island	633.4
Pennsylvania	638.7
New York	672
North Carolina	673.3
Delaware	732
Utah	753.9
Virginia	763.1
Maryland	780.2
Hawaii	811.5
Georgia	812.7
California	882
Florida	974.5
Nevada	1030.6

High Schools

State	High Schools
North Dakota	199.7
South Dakota	209.2
Montana	278.2
Oklahoma	341.7
Nebraska	348
Wyoming	365.5
Kansas	418.4
Arkansas	441.1
Iowa	463.5
District of C	493.5
Maine	553.5
Missouri	566
Idaho	581.8
Wisconsin	592.4
Alaska	634.8
Minnesota	641.2
New Mexico	647.7
Vermont	664.5
Mississippi	688.1
Alabama	714.4
Arizona	715.7
Oregon	720.6
West Virginia	725.4
Ohio	732.9
Colorado	757.1
Louisiana	774.4
Michigan	828.3
Connecticut	832.1
Kentucky	844.9
New Hampshire	850.8
National Average	886.9
Indiana	925
Tennessee	934
Washington	942.9
Massachusetts	944
Pennsylvania	951.8
Illinois	961.8
Utah	997.8
South Carolina	1011.7
Texas	1021.4
New York	1024.6
Rhode Island	1037.9
North Carolina	1097.1
Delaware	1180.6
New Jersey	1208
Virginia	1233.1
Georgia	1296.6
Hawaii	1335.1
Nevada	1408.2
Maryland	1413.6
California	1643.4
Florida	1745.4

III. Inadequate and Unequal Learning Conditions and Opportunities

I believe there's a lot of very good teachers, very good personnel and administrators there in the schools, but I [worry about] ... the lack of infrastructure and resources that are available for these people to actually do their jobs.

— Father of California public school student

It's all about the zip codes in California. It's good if you live in what you call the exclusive, good areas....[Their schools] look like colleges.... You know it's all about demographics.

— Mother of California public school student

California students experience fewer educational opportunities than students across the nation. Their schools are more often overcrowded, and they receive less personal attention from teachers and counselors than their peers in most other states. While almost every middle school and high school in California lags behind the rest of the nation in critical resources, many California schools have significantly fewer resources than other schools in the state. Thus, some groups of California students are disadvantaged in two ways: they attend school in California where support for schools is at or near the bottom of all states, and they attend those schools *within* California that are most poorly resourced.

As many parents reminded us, in a state highly segregated by class and race, where you attend school matters. Within California, secondary schools enrolling the highest proportion of African American, Latino and American Indian students are those most likely to face these opportunity problems. These shortages are particularly burdensome for students learning English and students from low-income families that do not have a history of college-going. These students need *more* counseling and support than their peers, but they often don't even have parity with students in wealthier neighborhoods (or zip codes). Without qualified adults available at their schools, such students often lack information and support to navigate toward high school graduation and college readiness.²²

SIDEBAR:

Average Student Membership Size of Middle Schools and High Schools

SOURCE: NCES Common core of data 05-06. Available online at <http://nces.ed.gov/pubs2007/2007354rev.pdf>

Overcrowded Schools

It's incredibly frustrating to be a parent of two little girls in elementary school ...[with] overcrowding—and they're in bungalows or just basically trailers.

— Mother of California public school student

California's middle schools are larger, on average, than schools in every other state except Florida and Nevada, and California's high schools are larger, on average, than schools in every other state except Florida.²³ Many of California's middle schools and high schools are among the largest secondary schools in the nation.

For instance, 32 of the state's middle schools enroll more than 2,000 students. 114 high schools enroll more than 3,000 students. 18 California high schools enroll more than 4,000 students. Only four other states (Texas, Florida, New York, and Illinois) have 20 or more high schools larger than 3,000. Nationally, the average middle school enrolls 603 students and the average high school enrolls 887 students.²⁴

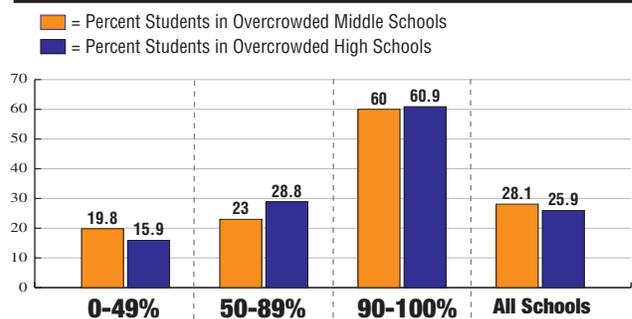
In addition to being large, many California secondary schools are overcrowded—that is, student enrollment exceeds campus capacity. For the purpose of our analysis, we use the California Department of Education's definition of overcrowding. Schools are "overcrowded" if their population density is equal to or greater than 175% of the state's recommended pupil population per-acre. Middle and high schools with 75 or more students per acre are deemed overcrowded. Of course, an "acreage" metric is a crude way to measure school capacity. However, given current data, the number of students per acre offers the most objective way to measure the *feeling* of congestion and the actual lack of classroom space experienced in overcrowded schools. More than one-fourth of California middle and high school students attend schools that the state has defined as overcrowded. This includes almost two-thirds of students in intensely segregated minority schools.

Overcrowding creates unsafe environments and makes teaching and learning more difficult. Schools may need to teach students in auditoriums, gymnasiums, storage rooms, and other areas never intended to be used for instructional purposes.²⁵ Schools with too little space may not be able to maintain specially equipped rooms such as science labs or libraries because these spaces need to be "flexible" for teaching multiple subjects. It is not uncommon to see teachers at these schools hauling basic instructional materials from class to class using luggage carriers or wagons because they have no stable space.

Overcrowding has led some California school districts to employ policies such as year-round, multi-track school calendars in order to keep some portion of the teachers and students off campus and "on break." Some of these calendars provide students with fewer days of instruction than are provided to other California students.

The graphic below displays the relationship between race and overcrowding in the three categories of California schools.

Secondary School Racial Composition and Overcrowding 2006–2007



Source: California Basic Education Data System, available at www.cde.ca.gov/ds/ds/ch/

High School Student-Counselor Ratios 2006-07

STATE	Student-Counselor Ratio
WEST VIRGINIA	57.2
WYOMING	102.2
VERMONT	116.4
HAWAII	137.6
COLORADO	150.6
RHODE ISLAND	156.0
NEW YORK	161.2
OKLAHOMA	170.5
LOUISIANA	176.3
ARKANSAS	178.9
KANSAS	179.2
VIRGINIA	180.6
NORTH CAROLINA	194.0
DELAWARE	202.5
NEW HAMPSHIRE	202.9
TEXAS	204.4
ALASKA	209.1
IOWA	209.2
CONNECTICUT	209.8
MARYLAND	214.5
MAINE	215.6
GEORGIA	218.0
IDAHO	218.4
NEVADA	221.5
DISTRICT OF COLUMBIA	231.8
INDIANA	232.1
MASSACHUSETTS	232.3
PENNSYLVANIA	233.1
FLORIDA	236.6
NEBRASKA	238.5
WISCONSIN	239.4
MISSISSIPPI	244.9
NATIONAL AVERAGE	249.0
ALABAMA	249.7
WASHINGTON	249.9
UTAH	258.9
MISSOURI	265.6
MONTANA	267.5
NORTH DAKOTA	278.2
NEW JERSEY	284.6
KENTUCKY	303.7
SOUTH CAROLINA	304.8
MINNESOTA	307.7
NEW MEXICO	312.5
TENNESSEE	336.5
ILLINOIS	358.7
SOUTH DAKOTA	362.1
MICHIGAN	362.6
OREGON	402.8
ARIZONA	408.4
CALIFORNIA	474.2
OHIO	840.8

Limited Access to Counselors

In the public schools there's like one or two counselors. Sometimes it's a volunteer parent. But there's really not enough to meet the needs of all the kids and give them good direction. — Mother of California public school student

California students and their families need help and resources to sustain and fulfill their college aspirations. Ideally, well-trained counselors provide students and families information and guidance throughout middle school and high school. Such counseling is particularly important for students whose families lack both knowledge of available opportunities (e.g., scholarships, nearby college campuses, etc.) and strategies for taking advantage of these opportunities. Recent immigrants and students whose families have not attended college are especially dependent on the support of knowledgeable counselors.²⁶

As reported in the chart on the left, California has 474 high school students for every counselor—almost twice as many students as the national average of 249. Eight in nine California high school students attend schools that provide less access to counselors than the national average. California ranks next to last of all states in providing high school students with access to counselors.²⁷ The ratio of students to counselors is even more unfavorable in California's middle schools, where there are 727 students for each counselor. While the availability of counselors is lower in California than in most states, *within* California, students attending intensely segregated high schools have less access to counselors than students in majority white and Asian high schools.

Some California parents have the resources (or can sacrifice) to pay private counselors to guide their children. One mother of a high school junior told us: "I really get angry that ... there's no college counselors. I have to go out and hire a college counselor in order to be guaranteed that I'm in the right direction as a single parent...I need help." Other parents, however committed to their children's education, cannot afford to purchase this extra support—support that is provided routinely in public schools in most states. The shortage of counselors thus has a differential impact across California's public schools.

SIDEBAR:

High School Student-Counselor Ratios

SOURCE: NCES Common core of data 06-07. (Data calculated by UCLA/IDEA.) Available online at <http://nces.ed.gov/ccd/>

Limited Access to Qualified Secondary Teachers

The teacher doesn't have time to answer his questions because she's over-packed in her class so that makes [my son] upset.

— Mother of California public school student

Students, parents, and teachers generally agree that students need personal attention and support from trained educators in order to achieve their educational goals. Yet California's secondary teachers are responsible for more students than secondary teachers in any other state. There are 46% more middle school students per teacher and 38% more high school students per teacher in California than the national average. The number of students per teacher is related to, but not the same measure as, average class size. In California, the high number of students per teacher means that there are few music and art teachers at the elementary level and that secondary teachers have limited opportunities to work together during planning periods. It also translates into very large class sizes. California has the largest middle school and high school classrooms in the nation. Further, class sizes in California are likely to rise over the next year with cuts to the state's education budget. Teacher and other school personnel salaries and benefits represent roughly four-fifths of the state's education budget.²⁸ As a consequence, it is extremely difficult for school districts to sustain cuts to their overall budget without reducing their teaching workforce.²⁹

I think they should really focus on maybe smaller, more personal classes because people can get lost in the cracks when they just don't feel like they exist anymore.

— Father of California public school student

Student-Teacher Ratios 2006-07

Middle Schools

STATE	Student-Teacher Ratios
VERMONT	10.6
SOUTH CAROLINA	11
DISTRICT OF COLUM	11.2
MAINE	11.4
KANSAS	11.9
NEW JERSEY	12.1
ARKANSAS	12.2
NEW HAMPSHIRE	12.7
NORTH DAKOTA	12.7
WYOMING	12.7
MASSACHUSETTS	12.8
VIRGINIA	13
NEW YORK	13.3
IOWA	13.4
NEBRASKA	13.5
SOUTH DAKOTA	13.7
MONTANA	13.8
WEST VIRGINIA	14.1
CONNECTICUT	14.2
WISCONSIN	14.3
GEORGIA	14.4
RHODE ISLAND	14.5
TEXAS	14.5
PENNSYLVANIA	14.6
MARYLAND	14.7
MISSISSIPPI	14.7
NEW MEXICO	14.8
MISSOURI	14.9
LOUISIANA	15.1
OKLAHOMA	15.3
OHIO	15.5
NORTH CAROLINA	15.6
NATIONAL AVERAGE	16
HAWAII	16.1
KENTUCKY	16.1
COLORADO	16.4
ILLINOIS	16.4
ALASKA	16.5
DELAWARE	16.5
MINNESOTA	17
TENNESSEE	17
ALABAMA	17.3
IDAHO	17.6
FLORIDA	17.8
MICHIGAN	17.8
ARIZONA	18.4
OREGON	18.4
WASHINGTON	19.7
UTAH	22.6
NEVADA	22.7
CALIFORNIA	23.4
INDIANA	no data

High Schools

STATE	Student-Teacher Ratios
DISTRICT OF COLU	11.5
VERMONT	11.6
ARKANSAS	11.7
KANSAS	12.1
SOUTH CAROLINA	12.1
MAINE	12.6
NORTH DAKOTA	12.6
WYOMING	12.9
NEW JERSEY	13.1
MASSACHUSETTS	13.7
MONTANA	13.7
NEW HAMPSHIRE	13.7
NEBRASKA	13.8
SOUTH DAKOTA	14.1
IOWA	14.2
RHODE ISLAND	14.4
OKLAHOMA	14.7
TEXAS	14.8
VIRGINIA	14.9
NEW YORK	15
CONNECTICUT	15.5
NORTH CAROLINA	15.5
WEST VIRGINIA	15.5
LOUISIANA	15.6
PENNSYLVANIA	15.7
WISCONSIN	15.8
MISSOURI	16.2
GEORGIA	16.3
HAWAII	16.4
MARYLAND	16.4
NEW MEXICO	16.4
DELAWARE	16.5
ALABAMA	16.6
OHIO	16.6
MISSISSIPPI	16.7
KENTUCKY	17.1
NATIONAL AVERAGE	17.2
ILLINOIS	17.4
TENNESSEE	17.7
IDAHO	17.9
MINNESOTA	17.9
COLORADO	18
ALASKA	18.7
FLORIDA	19.3
MICHIGAN	19.7
OREGON	19.8
WASHINGTON	21.4
ARIZONA	21.9
NEVADA	22.5
CALIFORNIA	23.8
UTAH	24.3
INDIANA	no data

SIDEBAR:

High School and Middle School Student-Teacher Ratios

SOURCE: NCES Common core of data 06-07. Available online at <http://nces.ed.gov/pubs2009/2009304.pdf>

Average High School Class Size

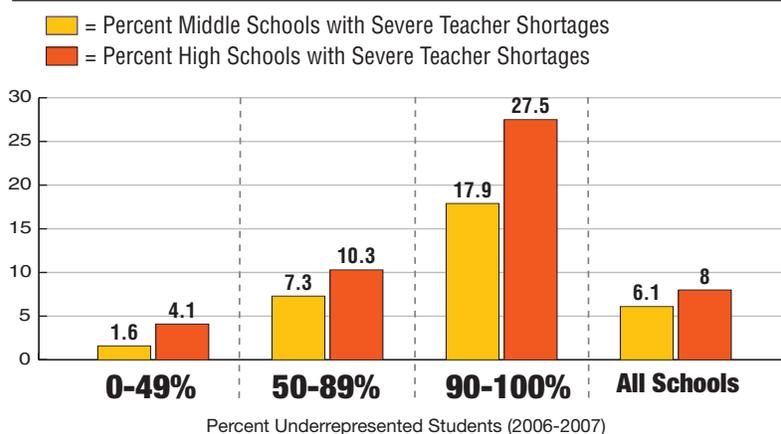
State	Class Size
VERMONT	18.9
MONTANA	19.4
NORTH DAKOTA	19.5
MAINE	19.8
WYOMING	21.5
NEBRASKA	21.7
MASSACHUSETTS	21.9
NEW HAMPSHIRE	22
WEST VIRGINIA	22.1
KANSAS	22.2
CONNECTICUT	22.3
SOUTH DAKOTA	22.3
TEXAS	22.3
ARKANSAS	22.4
MISSISSIPPI	22.4
RHODE ISLAND	22.4
VIRGINIA	22.7
DISTRICT OF COLL	22.8
MISSOURI	22.9
LOUISIANA	23.1
OKLAHOMA	23.2
ALASKA	23.3
DELAWARE	23.6
NEW YORK	23.6
OHIO	23.6
ALABAMA	23.8
SOUTH CAROLINA	23.8
IOWA	23.9
IDAHO	24.1
ILLINOIS	24.1
NEW JERSEY	24.1
NEW MEXICO	24.3
NORTH CAROLINA	24.3
COLORADO	24.5
TENNESSEE	24.5
National Average	24.7
PENNSYLVANIA	24.9
WISCONSIN	25.1
KENTUCKY	25.2
INDIANA	25.3
GEORGIA	25.6
MARYLAND	25.9
MINNESOTA	26
MICHIGAN	26.5
WASHINGTON	26.5
ARIZONA	27
HAWAII	27.4
FLORIDA	27.6
OREGON	28.9
UTAH	29
NEVADA	29.9
CALIFORNIA	30.5

Shortages of Highly Qualified Teachers

Access to teachers matters most when those teachers are highly qualified to advance student learning. Poorly qualified teachers have less content area knowledge, rely heavily on lecturing, and are often unprepared to have students engage in higher-order thinking and work. Schools with a severe shortage of qualified teachers, where more than 20% of the teachers lack full credentials, have high levels of teacher turnover; additionally, these schools do not have enough experienced and qualified teachers to mentor new and less prepared ones.³⁰

Although there has been marked improvement in the overall supply of qualified teachers in California, some communities around the state continue to experience severe teacher shortages. In the beginning of this decade, California faced a dramatic statewide shortfall of qualified teachers. More than 42,000 California teachers lacked full certification in 2001 and these teachers were concentrated in intensely segregated schools serving low-income students and English Learners. This number has steadily decreased to less than 15,500 today.³¹ Yet, these underprepared teachers are distributed unequally across California's public schools. Roughly 18% of intensely segregated middle schools experience severe shortages of qualified teachers compared to less than 2% of majority white and Asian middle schools. Similarly, intensely segregated high schools are almost seven times (27.5% to 4.1%) as likely as majority white and Asian high schools to experience severe shortages of qualified teachers.

School Racial Composition and Teacher Shortages 2006–2007



Source: California Basic Education Data System, available at www.cde.ca.gov/ds/sd/ch/

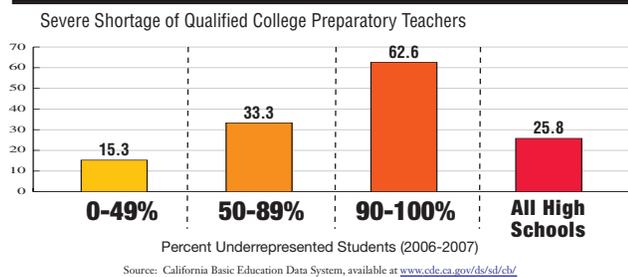
SIDEBAR:

Average High School Class Size

SOURCE: NCES Digest of Education Statistics 2007. Available online at http://nces.ed.gov/programs/digest/d07/tables/dt07_064.asp

Students need and parents want teachers who have a strong grasp of their subject matter, an intimate familiarity with the state content standards, and a deep understanding of how to convey key concepts to adolescents. Being “fully credentialed” does not guarantee that teachers will have knowledge and training in the subjects they are teaching. For example, even an experienced and fully credentialed teacher, trained and *interested* in social studies, may be called upon to teach other subjects, such as mathematics. According to a recent study from The Center for the Future of Teaching and Learning, “[O]ne quarter to one-third of high school teachers in each of the core subject areas—social science, physical and life sciences, English, and mathematics—are either underprepared, teaching out of field, or in their first or second year of teaching.”³² These teachers are concentrated in particular schools. As a consequence, in one-quarter of California’s high schools, more than 20% of college preparatory courses are taught by teachers teaching outside their subject area expertise. California’s intensely segregated high schools are four times as likely to experience this problem as are high schools where less than half of the students are underrepresented.

High School Racial Composition and Access to Qualified College Preparatory Teachers ‘06–‘07

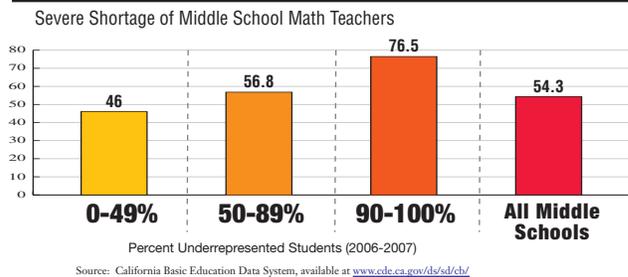


Math teacher preparation

The general shortfall of teachers in core subject matters is felt most acutely in mathematics. In more than half of California’s middle schools (serving 600,000 students), the majority of math teachers lack a specialized math credential. This shortage is twice as likely to occur in intensely segregated middle schools as in majority white and Asian middle schools. While state law allows middle school math teachers to hold either a credential in mathematics or a “multiple subjects”

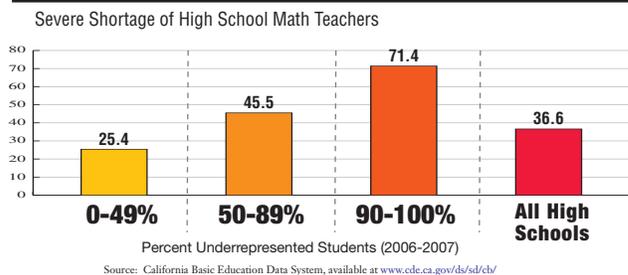
(K-8) credential, California’s high standards and the state’s new policy requiring all 8th graders to enroll in algebra by 2011³³ point to the need for a high proportion of “math specialists” at each school.

Middle School Racial Composition and Shortage of Math Teachers 2006–2007



We find similar shortages in California’s high schools. High-quality math instruction at the high school level requires a deep understanding of the subject matter. A common misconception is that remedial students or students struggling with “lower-level” math do not require highly competent math teachers. As a result, these students may never receive instruction from the most highly-qualified teachers who stand the best chance of making the subject clear, understandable, interesting, and tailored to students’ learning needs. Over one-third of California high schools face severe shortages of fully certified math teachers, and, as such, fail to meet NCLB requirements.³⁴ In these schools, more than 20% of the college preparatory math classes are taught by teachers without state credentials to teach mathematics.

High School Racial Composition and Shortage of Math Teachers 2006–2007



This problem affects more than one-half million California students. High schools serving predominantly African American and Latino students are almost three times as likely as majority white and Asian schools to face this problem.

Limited Access to High-Quality College Preparatory Curriculum

If you have your bar way down there then that's no contest for them. They're not going to have anything to aspire to, but if you raise your bar up here then they'll have to continually make themselves better.

— Mother of California public school student speaking about need for rigorous curriculum.

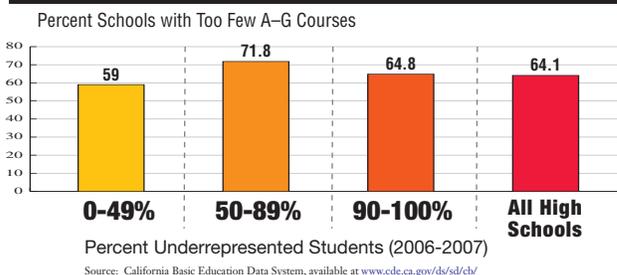
California parents strongly endorse the idea that all high school students should have access to a rigorous, college preparatory curriculum. Parents in our focus groups argued that students perform best when they feel intellectually challenged by what they are studying. This belief in the value of rigorous coursework is supported by recent research. According to a widely acclaimed U.S. Department of Education study, enrolling in a rigorous high school curriculum increases students' chances of earning a bachelor's degree. The study found that of all the high school courses, the highest level of mathematics taken is the most important predictor of college success. The study also reported that taking rigorous high school courses had the greatest impact on the college-going of African American and Latino students.³⁵

The A-G course requirements for admission to California State University and the University of California represent a baseline standard of rigorous coursework in California high schools. To meet the A-G requirement, students must take a minimum of 15 college preparatory courses across seven different areas of study and earn a “C” or better. These 15 courses represent approximately two-thirds of their high school courses. Accordingly, to provide every student with the opportunity to satisfy these college eligibility requirements, California high schools must ensure that *at least* two-thirds of their courses meet the A-G requirements. This minimum “two-thirds” fraction presumes a perfect distribution of A-G courses among the different A-G subjects, does not account for students who may repeat an A-G course, and requires scheduling precision (just the right amount of students for

particular courses in a given semester). In schools with high rates of college-going, it is common for more than three-quarters of the school's courses to satisfy the A-G requirements.³⁶

Many California high schools offer fewer than the minimum number of courses needed to fulfill the A-G requirement. That is, the curriculum in these schools is structured in a way that ensures some students will not be able to become eligible for four-year colleges and universities. Rather than a structural incentive to draw students into available rigorous classes, having too few classes may be an incentive to discourage students from enrolling in the classes. Over a million (1,049,414) California high school students attend schools that do not offer enough A-G courses for all students to take the college preparatory curriculum. While over half of the high schools serving majority white and Asian students lack sufficient A-G courses, more than two-thirds of the high schools with a majority of underrepresented students face this problem.

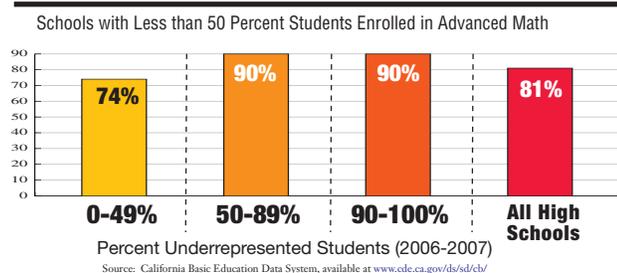
School Racial Composition and Access to the College Preparatory Curriculum 2006–2007



Access to Rigorous Science and Math Curriculum in California's High Schools

In addition to meeting the baseline standard of A-G requirements, it is important that California high school students enroll in a number of higher-level math and science courses. As noted above, successful completion of rigorous math courses in high school is a strong predictor of college success. Further, given the importance of high technology jobs to California's economy, so-called STEM (science, technology, engineering, and mathematics) courses serve as "building blocks for success in the workplace and in higher education."³⁷ Developing a workforce with skills in these areas also is crucial for the state's future economic well-being.

High School Racial Composition and Enrollment in Advanced Math Classes 2006–2007



Despite the importance of science and math, the proportion of students enrolling in higher-level science and math classes remains quite low in most California high schools. In 59% of California high schools, less than half of 11th and 12th graders enroll in physics or chemistry courses that require college preparatory math. Enrollment in advanced math classes is even more limited. In 81% of California high schools, less than one half of 11th and 12th graders enroll in courses that the state designates "higher level" math classes.⁴¹ As shown in the graph below, students in schools serving majority African American and Latino students are more likely than those in majority white and Asian schools to experience this problem.

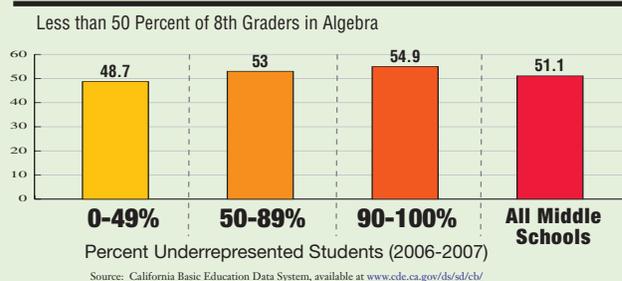
Access to Rigorous Math Program in California's Middle Schools

California's math standards, adopted in 1997 and then pushed forward with legislation supporting new textbooks in 2001-2002, call for students to take more and more rigorous math classes. This framework, combined with the state requiring algebra for graduation and the implementation of the California High School Exit Exam, has prompted an increase in secondary math enrollment overall, and in 8th graders taking algebra.³⁸ Also, a new California policy, if implemented, would require all 8th graders to enroll in algebra by 2011.

The results of the 8th grade math NAEP suggest that California's standards and accountability reforms alone are not sufficient to promote math proficiency. In 2007, the average NAEP math score for California 8th grade students was 270, placing California behind 44 other states and below the national average of 280. Fewer than one in four California 8th graders scored at the proficient or advanced level. More than 40% of California 8th graders scored "below basic"—the lowest level.³⁹ As noted earlier in this report, California's sub-par performance on the math NAEP holds for all students and all sub-groups—including white and non-poor students.

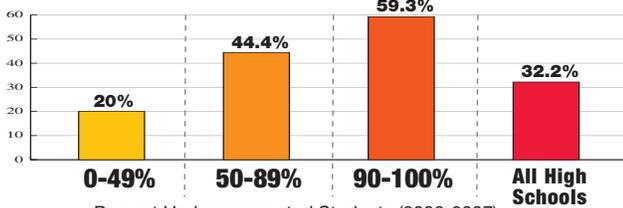
California's curriculum framework in math encourages schools to enroll all students in algebra by 8th grade.⁴⁰ However, half (51%) of California's middle schools enroll fewer than half of their 8th graders in algebra or its equivalent. More than 560,000 students attend such schools. This problem cuts fairly evenly across intensely segregated, majority underrepresented, and majority white and Asian California middle schools.

Middle School Racial Composition and 8th Grade Enrollment in Algebra 2006–2007



High School Racial Composition and Enrollment in Advanced Placement (AP) 2006–2007

Percentage of Schools with Less than 10 Percent of 9th Grade Cohort Enrolled in AP Math



Source: California Basic Education Data System, available at www.cde.ca.gov/ds/sd/chr/

Not surprisingly, an even smaller proportion of California’s high school students enroll in Advanced Placement (AP) mathematics, the most rigorous math courses offered.⁴² In the chart above, we compare the number of 9th graders in 2003-04 to the number of 12th graders enrolled in AP math at the same school in 2006-07. We find that in almost one third of California high schools, less than 10% of 9th graders enroll in AP mathematics four years later. Intensely segregated schools are almost three times more likely than majority white and Asian schools to experience these low rates of AP enrollment.

You look at the AP courses that are available for students and what they offer at different high schools. I know at West High they don’t have as many as they have at East High,* and they don’t have as many as South High.* You know, it is all about demographics.*

— Mother of California public school student

* We use pseudonyms for school names here to maintain the confidentiality of focus groups participants.



Rigorous and Relevant Coursework?

Recent efforts to reform California high schools have reignited the debate over whether high school students need greater access to challenging and rigorous college preparatory curriculum or more hands-on career and technical education courses. On one side stand advocates of “college for all” who are suspicious of career and technical courses, viewing them as a contemporary iteration of the “vocational” tracks originally created for and targeted at low-income students and students of color.⁴³ On the other side stands the “get real” coalition who contend that a curriculum designed to prepare students for college will not only alienate many students, but leave them ill-prepared for the world of work. In *Beyond Tracking: Multiple Pathways to College, Career, and Civic Participation*, Jeannie Oakes and Marisa Saunders argue that this debate creates a false choice between traditional academic curriculum and vocational education (more recently, called “career and technical education” or CTE.) They marshal evidence that students “learn more and better when they can apply academic knowledge and skills to real-world situations and problems.”⁴⁴

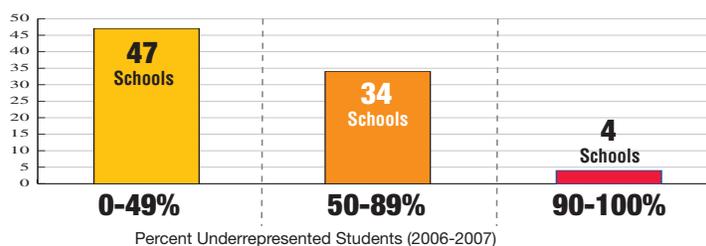
To date, there has not been a comprehensive study that identifies how many California high school students have access to the integrated approach to curriculum outlined by Oakes and Saunders.⁴⁵ But we can report on one strategy aimed at achieving this integration: creating courses that fulfill both CTE and A-G requirements. For a CTE course to be approved by the University of California as meeting the “g” elective requirement,⁴⁶ it must “connect academic content knowledge with practical or work-related applications”⁴⁷ and satisfy the following conditions:

- Provide high-quality, challenging curricula that use and advance concepts and skills in the “a-f” subject areas;
- Integrate academic knowledge with technical and occupational knowledge;
- Include tasks that are rich in opportunities to develop knowledge of tools, processes and materials; engage in problem-solving and decision-making; and explain what one is doing and why.

Although the number of CTE courses that meet one of the A-G requirements has markedly increased in the last two years,⁴⁸ these courses represent a small fraction of the total number of “traditional” A-G or CTE courses offered in the state. Most of these courses satisfy the “g” (college-prep elective) or the “f” (visual and performing arts) requirements.⁴⁹ The number of CTE courses that satisfy the “a” (history/social science), “b” (English), “c” (math), “d”(laboratory science) and “e”(foreign language) requirements remains relatively small. This uneven distribution of courses across the curriculum makes it extremely difficult for students to enroll simultaneously in a CTE path and fulfill UC/CSU course-taking.⁵⁰ In 8% of high schools in the state (85 schools), a quarter or more of CTE course offerings meet one of the A-G requirements. These 85 high schools are not representative of the state as a whole; a disproportionate number enrolls majority white and Asian student bodies. Since broad-scale efforts to combine A-G and CTE are still in their infancy, it will be important to document whether and to what extent these new programs are made accessible to a broad cross-section of California’s students.

Schools Offering CTE Courses that Meet A-G Requirements 2006–2007

Number of Schools Where at Least 25% of CTE Courses Meet A-G Requirements

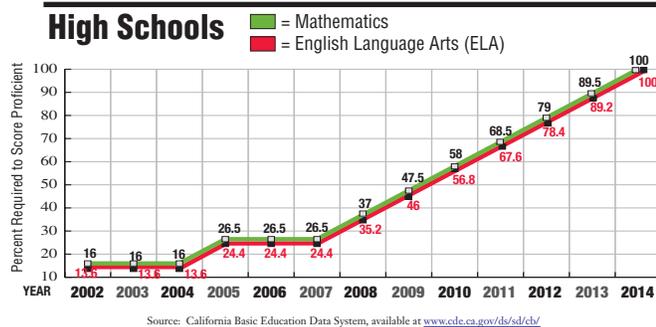


Source: California Basic Education Data System, available at www.cde.ca.gov/ds/sd/cb/

IV. California Schools and Federal Accountability Standards

The federal No Child Left Behind Act (NCLB) calls for all students to reach proficiency in mathematics and English/Language Arts by 2014. In the years leading up to 2014, high schools must demonstrate that they are steadily moving toward this goal by enabling more and more of their students to achieve proficiency on standardized tests. A National Science Foundation study published by Rich Cardullo and colleagues in fall 2008 in the journal *Science* found that at current rates of progress, nearly all California schools will fail to meet AYP by 2014. Like many other states, California set relatively low proficiency goals for itself in the first years after NCLB’s authorization and now must effect dramatic improvements in the coming years to reach 100% proficiency by 2014. “To use an analogy from the housing world, the balloon payment is about to hit,” said Cardullo.⁵¹

NCLB’s Rising Standards 2006–2007



Schools that fail to meet their annual proficiency goals in math and English for two years in a row are placed in Program Improvement (PI) status and face state sanctions.⁵² Schools can exit PI status if they meet their “Adequate Yearly Progress” or AYP two years in a row. District and state intervention in PI schools increases over time, and, in the first few years, may include professional development or free tutoring. The funds set aside by the state to assist schools in exiting PI status are limited.⁵³

In a report that raises questions about the effectiveness of school restructuring under NCLB, the Center on Education Policy found that few of the hundreds of failing California schools that

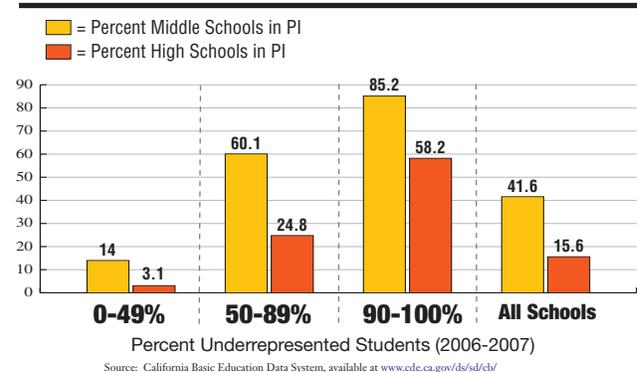
enter restructuring each year pull their test scores up enough to exit the process. The report stated that in the 2006-07 school year, only 33 schools—or 5% of the more than 700 schools that were in restructuring that year—made enough progress to exit “program improvement.”⁵⁴

Schools that remain in PI status for five years (or more) may face dire consequences, including: reopening the school as a public charter school; replacing all or most of the school staff (which may include the principal); contracting with an outside entity to operate the school; state takeover of the school; or “any other major restructuring of the school’s governance arrangement that makes fundamental reforms.”⁵⁵

NCLB’s limited accountability framework assumes that California schools currently have the capacity to improve student performance continually. It presumes that poor performance results from a lack of motivation which can be remedied through threat of sanction. This model does not account for the lack of educational opportunities faced by most California high schools, nor does it take into consideration the inequitable distribution of these resources.

For the 2008-2009 school year, close to 42% of California middle schools and 16% of high schools are in PI status.⁵⁶ As reported in the charts below, intensely segregated middle schools are six times as likely to be designated as PI schools as majority white and Asian middle schools, and intensely segregated high schools are 19 times as likely to be in PI as majority white and Asian schools.

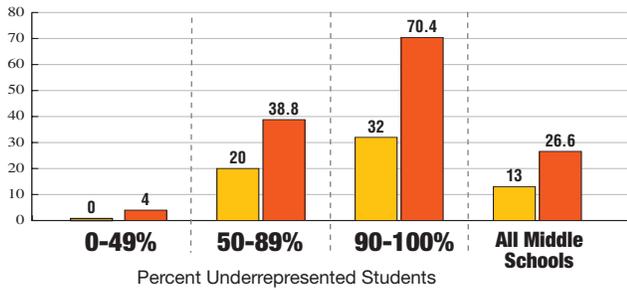
School Racial Composition and “Program Improvement” Status 2008–2009



The percentage of California middle schools facing the most severe forms of sanctions is growing at an alarming pace. In just three years, the number of middle schools designated as “PI 5” schools has doubled, from 13% of middle schools in 2005-2006 to 27% in 2008-2009. The vast majority of “PI 5” middle schools and high schools are intensely segregated schools.

School Racial Composition and “Program Improvement 5” Status

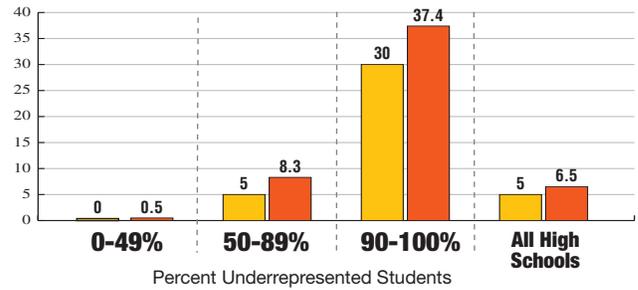
Middle Schools ■ = Percent Middle Schools in PI Years 5+, 2005-2006
■ = Percent Middle Schools in PI Years 5+, 2008-2009



Source: California Basic Education Data System, available at www.cde.ca.gov/ds/sd/cbr/

School Racial Composition and “Program Improvement 5” Status

High Schools ■ = Percent High Schools in PI Years 5+, 2005-2006
■ = Percent High Schools in PI Years 5+, 2008-2009



Source: California Basic Education Data System, available at www.cde.ca.gov/ds/sd/cbr/



CONCLUSION

Years ago when I was in elementary school, California was one of the leading states in education. Now it's at the bottom. I look at the opportunities that are there now versus what used to be and it's just sad, it's not there anymore.

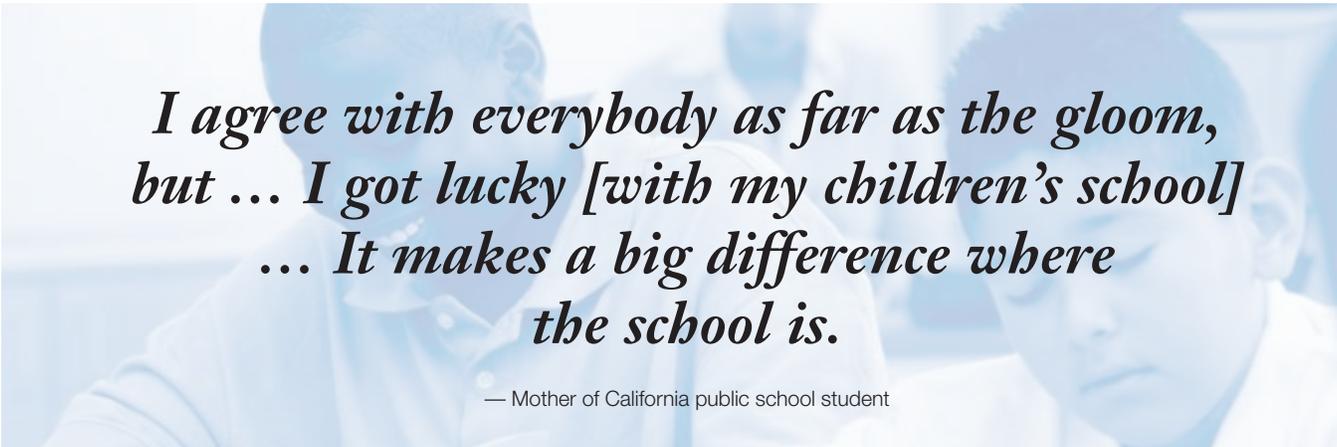
— Mother of California public school student

Parents in our focus groups, while expressing satisfaction and support for individual teachers at their children's schools, highlighted two themes about California's public education that are reflected in our analysis of state data. Many of California's schools do not provide adequate learning conditions to meet the goals of the state's students and parents. Many secondary schools are overcrowded, lack well-trained educators, and offer too few rigorous courses. Further, on average, schools enrolling the highest proportion of underrepresented students provide those students with the fewest learning opportunities.

Parents also talked about how they navigate and struggle within this uneven system where the quality of learning conditions often “depends on zip code.” Some decide where to live based on their perception of the local schools. One mother, who lacked this purchasing power, sent her daughter to live with a friend in a more affluent community: “On Friday I pick up my daughter and keep her on the weekends. I feel like a stepmother now ... because ... the education is so terrible where I am.” Many other parents were unwilling or unable to make such choices, and expressed continued frustration with the poor quality of education in their communities.

The economic crisis that has emerged in the months since our focus groups has escalated the challenges for California's public schools and California's parents. Dramatic declines in tax revenues have led to severe cuts in the state's education budget. These cuts will be applied to a system already under-resourced relative to other states. According to *Education Week's* annual “Quality Counts” report, California's cost-adjusted per pupil expenditure was \$2,000 less per student than the national average and \$5,000 less per pupil than high expenditure states like New York, New Jersey, and Maine. That is, California spent 77 cents on the dollar compared to the nation and 57 cents on the dollar compared to New York.⁵⁷

There is much cause to worry that new budget cuts will erode the already troubled foundation of California's educational system. Recent history suggests that teacher layoffs have a long-term impact on California's ability to attract new teachers into the profession.⁵⁸ Like everything else, the effect of cuts impacts communities differently, and, in the expression that reveals so much, “depends on zip code.” Without question, some communities will be better able to fill in or compensate for cuts using local resources—perhaps, eventually, through local



*I agree with everybody as far as the gloom,
but ... I got lucky [with my children's school]
... It makes a big difference where
the school is.*

— Mother of California public school student

parcel taxes. Further, it is possible that policies aimed at providing districts with greater local autonomy to address budget cuts (for example the elimination of class size reduction) may lead to greater variability in the provision of learning resources.

Surely, no one welcomes a crisis—particularly a deepening crisis—when it jeopardizes the well-being of our children and our state. Yet this moment also holds the possibility for a greater recognition that fundamental changes are needed to reach our shared educational goals. The budget cuts may lay bare the reality that California schools cannot meet this crisis by becoming more efficient, by reducing labor costs, by outsourcing, by teaching “better,” or by pursuing any of the other solutions suggested over the years. According to the state’s data, almost all California public schools lack sufficient resources to enable all students to graduate from high school ready for a four-year university. Even if California manages to maintain its current funding levels, the best we will be able to say for California is that the schools remain at the bottom. Piecemeal funding reforms will not improve California’s education position among the states and won’t relieve California parents of the burden of relying on luck, wealth, or personal sacrifice to get a decent education for their children. The time to start building a new system of educational finance and governance is now.



Endnotes

- 1 UCLA IDEA contracted Lake Research Partners to convene five focus groups involving a total of 49 parents. Two groups – a group of African American parents and a group of white fathers – met in Northern California on March 31, 2008. The following day, three groups – a group of Asian mothers, a group of Latina mothers, and a group of white mothers – met in Southern California. Participants for each group were randomly selected from the population of public school parents. The focus group participants discussed California schooling conditions, including A-G course requirements for high school students. The parents responded to the prompt: ‘Please write down the first thing that comes to mind when you hear the words “California Public schools.”’
- 2 Employment Development Department, Labor Market Information Division, REPORT 400 C. (2008). Retrieved February 9, 2009, from <http://www.calmis.ca.gov/file/lfmonth/countyr-400c.pdf>; Employment Development Department. Retrieved February 9, 2009, from <http://www.labormarketinfo.edd.ca.gov/?pageid=166>
- 3 U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 State Comparisons. Retrieved February 11, 2009, from <http://nces.ed.gov/nationsreportcard/nde/statecomp/index.asp> These data are based on state comparisons from NCES where “middle class” refers to students who are not eligible to receive Free and Reduced-Price Meals according to the national school lunch program.
- 4 U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 State Comparisons. Retrieved February 11, 2009, from <http://nces.ed.gov/nationsreportcard/nde/statecomp/index.asp>
- 5 Data on the graduation rates of students in the Class of 2006 and the Class of 2007 come from the California Basic Education Data System (CBEDS). Data available online at <http://dq.cde.ca.gov/dataquest/>
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The California Educational Opportunity Report

UCLA/IDEA & UC/ACCORD

Data Sources and Definitions

Introduction:

The definitions below provide information on key terms and data sources used for the analyses in the California Educational Opportunity Report and accompanying Legislative District reports. These reports present data about outcomes and conditions in California public schools. We distinguish between three types of schools:

- Majority white and Asian. Schools that are composed of 0-49% underrepresented African American, Latino, and American Indian students;
- Majority underrepresented students. Schools composed of 50-89% underrepresented African American, Latino, and American Indian students; and
- Intensely segregated. Schools where 90-100% of the students are underrepresented African American, Latino, or American Indian students.

The data used in this report come mostly from three main data sources. For school level data on conditions and opportunities to learn, we use data from the California Department of Education (CDE) California Basic Educational Data System (CBEDS), for most of the data requiring state or national level comparisons we use data from the National Center for Education Statistics (NCES), and for qualitative parent data we use focus group data gathered by Lake Research Partners in collaboration with UCLA IDEA. The italicized portions of some definitions highlight technical information on how we calculate our statistics using these databases.

A-G Courses:

See “college preparatory courses.”

Advanced mathematics:

Advanced mathematics is a designation of the California Department of Education that refers to courses beyond Algebra II/Intermediate Algebra. *We calculate enrollment in advanced math courses using 2006-2007 CBEDS School Information Forms (SIF), sections A, D, and E. Schools are designated as experiencing a problem if the total number of students enrolled in these courses is less than 50% of the school's 11th and 12th graders. We calculate the enrollment in courses beyond Algebra II/Intermediate Algebra using 2006-2007 CBEDS School Information Forms, sections A, D, and E (<http://www.cde.ca.gov/ds/sd/cb/filessifae.asp>). Please see www.cde.ca.gov/ds/sd/cb/documents/asgncodelist08.doc for a full list of courses.*

Advanced Placement mathematics:

Advanced Placement (AP) Statistics and two AP Calculus courses (called “Calculus AB” and “Calculus BC”) are the AP math courses. *We divide the number of 12th graders at a given high school in 2006-07 by the number of 9th graders enrolled at the same school in 2003-04. Data from the 2003-2004 CBEDS School Information Form, section B (<http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>) are used to calculate the number of 9th graders for each school in 2003-2004. We then use data from the CBEDS Professional Assignment Information Form (PAIF) (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) to calculate the number of students enrolled in AP math. Schools are designated as experiencing a problem if the total enrollment of students in AP mathematics is less than 10% of 9th-grade student enrollment in 2003-2004.*

Advanced science:

Advanced science refers to chemistry and physics courses that require college preparatory math. *We calculate the enrollment in physics and chemistry courses using 2006-2007 CBEDS School Information Form, sections A, D, and E (<http://www.cde.ca.gov/ds/sd/cb/filessifae.asp>). Schools are designated as experiencing a problem if the total number of students enrolled in these courses is less than 50% of the school's 11th and 12th grade enrollment. Advanced science includes the following courses: physics, coordinated/integrated science IV, AP physics B, AP physics C, International Baccalaureate (IB) physics and advanced physics, chemistry, coordinated/integrated science III, AP chemistry, and IB chemistry and advanced chemistry.*

Algebra (8th Grade):

Taking algebra in 8th grade puts students on track for taking AP Calculus by 12th grade. *We calculate the percent of 8th graders enrolled in algebra by using STAR 2007 (<http://star.cde.ca.gov/star2007/viewreport.asp?rf=True&ps=True>). Data from the 2006-2007 CBEDS School Information Form, section B (<http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>) are used to calculate the number of 8th graders for each school.*

California High School Exit Exam (CAHSEE):

The CAHSEE is an English language arts and mathematics test students must pass to graduate from high school. Students take this test starting in 10th grade, and repeat the test in later years if necessary. *To calculate the passing rate for the Class of 2007, we aggregate the number of 10th-graders who passed the English language arts section of the test in 2004-05 and 11th graders who passed it in 2005-06, and then divide this number by the total enrollment of 10th graders in 2004-05. We follow a similar process for students passing the math section.*

College preparatory courses:

College preparatory (A-G) courses are those that high school students must take in order to be eligible for admission to either the California State University or the University of California. These courses are grouped in seven subject-matter categories that correspond to letters of the alphabet. (For more information about A-G courses, visit <http://www.ucop.edu/a-gGuide/ag/welcome.html>.) Students must earn at least a C in a minimum of 15 of these courses, or about two thirds of their total coursework. In accordance with this ratio, we identify schools where fewer than 67% of the courses meet A-G requirements. Such schools offer too few college preparatory courses for all students to enroll in a college preparatory curriculum. *We calculate our findings on A-G courses by using the CBEDS Professional Assignment Information Form (PAIF) (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) in combination with the University of California Office of the President's list of approved A-G courses at each California high school. The CDE files can be accessed at: <http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>.*

English Learners:

English learners are those students who are learning English as a second language. Schools classify students as English learners based on the California Department of Education's definition: "a K-12 student who, based on objective assessment, has not developed listening, speaking, reading, and writing proficiencies in English sufficient for participation in the regular school program." (See <http://www.cde.ca.gov/sp/el/er/>.) *This variable is calculated using language census data (<http://www.cde.ca.gov/ds/sd/lc/fileselsch.asp>).*

Focus Groups:

UCLA IDEA contracted Lake Research Partners to convene five focus groups involving a total of 49 parents. Two groups – a group of African American parents and a group of white fathers – met in Northern California on March 31, 2008. The following day, three groups – a group of Asian mothers, a group of Latina mothers, and a group of white mothers – met in Southern California. Participants for each group were randomly selected from the population of public school parents. The focus group participants discussed California schooling conditions, including A-G course requirements for high school students.

Free and Reduced-Price Meals (FRPM):

The federal FRPM program provides free or reduced-price meals to qualifying students. Student eligibility for FRPM is based on family income. FRPM is the only indicator available to measure concentrations of poverty at the school level. Following standard convention when discussing results from the National Assessment of Educational Progress (or NAEP), we refer to students who are not eligible for free or reduced meals as middle class. *For the economic criteria for eligibility and participation in the program, see <http://fns.usda.gov/cnd/>*

High schools:

California high schools typically enroll students in grades 9-12. In this report, we also include schools that are designated as high schools or state special schools and enroll students in the following grade spans: K-12, 1-12, 2-12, 3-12, 4-12, 5-12, 6-12, 7-12, 8-12, 9-12, 10-12.

Intensely segregated schools:

This term refers to schools that enroll 90-100% African American, Latino, and American Indian students. While we borrow the term from Gary Orfield and Chungmei Lee's 2006 report, *Racial Transformation and the Changing Nature of Segregation*, our definition is different. Orfield and Lee use "Intensely Segregated Minority Schools" to refer to schools that enroll 90-100% African American, Latino, American Indian, and Asian American students.

Middle school class size:

We report on middle school math and science classes that are enrolling more than 25 students. *We calculate the percent of science and math classes that enroll more than 25 students using the CBEDS Professional Assignment Information Form (PAIF) (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) for each California middle school.*

Middle Schools:

California middle schools typically enroll students in grades 6-8. In this report, we include schools that enroll students in the following grade spans: 6-8 and 7-8.

National Assessment of Educational Progress (NAEP):

NAEP is a nationally conducted academic assessment commonly referred to as "the nation's report card." Collected by the National Center for Education Statistics (NCES), NAEP data allows for state-by-state comparisons of student achievement at grades 4 and 8 in reading and mathematics.

NCLB math proficiency:

This term refers to the math achievement goals established by No Child Left Behind (NCLB). *We calculate projections of whether schools will meet the NCLB math proficiency standards by 2014 by finding the percentage of students per school who tested at the proficient level on the California Standards Test in math in 2006-2007. This information was gathered from CBEDS Adequately Yearly Progress data at: <http://www.cde.ca.gov/ta/ac/ay/aypdatafiles.asp>. These projections assume that schools will maintain their current percentage of proficient students over the next several years.*

Overcrowded schools:

We define overcrowded schools as those with population densities equal to or greater than 175% of the California Department of Education's recommended per-acre pupil population density. Elementary schools with 100 students or more per acre and middle and high schools with 75 or more students per acre are overcrowded. Student enrollment data from 2006-2007 and school acreage information provided by CDE are used to determine whether or not schools meet this definition of overcrowding. For more information about California Department of Education's recommended per-acre pupil population density, see <http://www.cde.ca.gov/ls/fa/co/overcrowdedschools.asp>

Pathway to college:

This term refers to the progress of the Class of 2007 from 9th grade to graduation and college enrollment. For each high school we use CBEDS data to report the number of students who were enrolled as 9th graders in fall 2003, 10th graders in fall 2004, 11th graders in fall 2005, 12th graders in fall 2006, and graduated in spring 2007. CBEDS data are also used to report how many students graduated having fulfilled the A-G requirements. (See "college preparatory courses.") We then use data from the California Post-Secondary Education Commission (CPEC) to report the number of students from each high school enrolled in California community colleges and universities in fall 2007.

For each high school (and at the state, legislative or congressional district level), we present the graduation and A-G data in relation to the size of the original cohort of 9th graders in fall 2003. This ratio is called the College Opportunity Ratio (COR), a three-number figure. The first number is always 100, representing a given group of 100 ninth graders. The second number tells how many of these students graduated four years later. The third number indicates how many graduated with the A-G requirements to enter a California State University of University of California. It is important to note that there are many different methods for determining graduation rates. Our method of presenting a ratio, like all others presently used in California, is imperfect. The 9th grade cohort on whom we base the pathway to college ratio often includes both first-time 9th graders and students who have been held back from the previous cohort. It would be more accurate to base the graduation and progress to college rates on only those students who were first-time 9th graders in fall 2003, but California's current data reporting systems do not allow us to follow students in this manner.

Per-pupil spending:

This term refers to the amount of money spent per student enrolled in a California school. We compare this figure to the national average using National Center for Educational Statistics (NCES) data. We also refer to the cost-adjusted per pupil expenditures for the state of California. This figure comes from *Education Week's* 2009 "Quality Counts" report. *Because spending information is not reported at the school level, each public school is assigned the 2005-2006 average*

per-pupil expenditure from its school district. This expenditure is then adjusted for the local cost of education based on the Comparable Wage Index (CWI) published by NCES (<http://nces.ed.gov/pubSearch/pubsinfo.asp?pubid=2006865>). We then compare the cost-adjusted per-pupil expenditures to the 2005-2006 national average per-pupil expenditure.

Program Improvement schools:

Program Improvement schools are those that fail to meet NCLB and state requirements for "adequate yearly progress" (AYP) of students' standardized test scores for two consecutive years. *For additional information about Program Improvement status determinations, see <http://www.cde.ca.gov/ta/ac/ay/tidetermine.asp>. Using data from the California Department of Education (<http://www.cde.ca.gov/ta/ac/ay/tidatafiles.asp>), we report the percentage of schools designated as Program Improvement schools.*

Public schools:

According to the California Department of Education, state public schools comprise elementary schools, middle schools, junior high schools, high schools, K-12 schools, alternative schools, continuation schools, county community schools, community day schools, county youth authority schools, juvenile hall schools, opportunity schools, special education schools, and state special schools. We do not include county community, community day, county youth authority, juvenile hall, and opportunity schools when we report on school demographics, conditions, and outcomes.

Students per counselor:

This term refers to the number of students per counselor in a given high school. *The number of high school students per counselor is calculated by dividing a high school's total enrollment by the number of full-time counselors at the school. Enrollment data are obtained from the 2006-2007 CBEDS School Information Form, section B (<http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>), and counselor data are obtained from the CBEDS Professional Assignment Information Form (PAIF) (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>). Within each California public high school, the number of students per counselor is compared to the national high school average, a statistic we obtain from National Center for Educational Statistics (NCES) 2006-2007 data.*

Students per teacher:

This term refers to the number of students per teacher in a given high school. This figure is usually much lower than the average class size because there are typically multiple classes (Special Education, for instance) that are very small. *We calculate students per teacher by dividing a high school's total enrollment by the number of full-time teachers at the school. For each California public high school, the number of students per teacher is compared to the national high school average, a statistic we obtain from National Center for Educational Statistics (NCES) 2005-2006 data.*

Teachers:

Fully credentialed teachers: Fully credentialed teachers are those who hold the licensure required by the state. *We use the 2006-2007 CBEDS Professional Assignment Information Form (PAIF) data files (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) to determine whether or not teachers are fully credentialed. Schools in which 20% or more of the teachers lack a full credential are designated as experiencing a severe shortage of qualified teachers.*

Middle School Math Teachers: According to No Child Left Behind (NCLB) and state standards, qualified middle school math teachers are those holding a K–8 multiple-subject teaching credential or a secondary math credential. However, in light of the growing trend of teaching algebra in 8th grade, we argue that middle schools need a critical mass of “math specialists” at each school. *We designate schools as having a severe shortage of qualified middle school teachers if fewer than half of their math teachers hold a secondary credential in mathematics. We use the 2006-2007 CBEDS Professional Assignment Information Form (PAIF) data file (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) to generate this variable.*

Qualified high school teachers: High school teachers are designated as qualified by No Child Left Behind (NCLB) and state standards if they hold subject matter credentials matching the courses they teach. We report on the number of college preparatory courses taught by teachers who lack the appropriate credentials. *This indicator is calculated in two steps. First we compile the list of college preparatory courses taught at each high school. Then we use the 2006-2007 CBEDS Professional Assignment Information Form (PAIF) data (<http://www.cde.ca.gov/ds/ss/cb/filespaif.asp>) to determine whether the teachers for these courses hold the appropriate subject matter credential. Schools in which 20% or more of the college preparatory teachers lack the appropriate credential are designated as experiencing a severe shortage of qualified college preparatory teachers. Similarly, schools in which at least 20% of the college preparatory math teachers lack the appropriate math credential are designated as experiencing a severe shortage of qualified college preparatory math teachers.*

Underrepresented students:

Underrepresented students are Latino, African American and American Indian students. These students are underrepresented in the University of California system. In this report, we present data for three types of schools: 1) schools composed of less than 50% underrepresented students; 2) schools composed of 50 to 89% underrepresented students; and 3) intensely segregated schools where 90-100% of the students are from underrepresented groups.

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UCLA IDEA is a research institute seeking to understand and challenge pervasive racial and social class inequalities in education. In addition to conducting independent research and policy analysis, IDEA supports educators, public officials, advocates, community activists, and young people as they design, conduct, and use research to make high-quality public schools and successful college participation routine occurrences in all communities. IDEA also studies how research combines with strategic communications and public engagement to promote widespread participation in civic life. www.ucla-idea.org

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University of California's All Campus Consortium on Research for Diversity (UC ACCORD) is an interdisciplinary, multi-campus research center. UC ACCORD serves as an information and research clearinghouse and catalyst for promoting the delivery of high-quality, equitable schooling to all students. UC ACCORD harnesses the research expertise of the University of California to identify strategies that will increase college preparation, access, and retention. www.ucaccord.org

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