California K-12 Report Card

February 1994

Elizabeth G. Hill • Legislative Analyst

Table of Contents

INTRODUCTION

Improving public K-12 education is at the top of the public agenda. According to surveys of the general public, many people are concerned about the quality of education that is provided in our public schools. Across the nation, considerable time and expense is being devoted to finding new ways to improve public schools.

Yet, the basic question of how well public education is performing has not been adequately answered. This report reviews the available evidence on the comparative success of California's public education system. It is a short report, because there are few good data on how well California students are learning in school compared to other states. Despite its brevity, however, the data provide important insights into how well public education is doing.

This report is divided into four sections. First, we look at the demographics of California and four comparison states. Second, we examine California's performance on the National Assessment of Educational Progress, a national test that permits good interstate comparisons. Third, we review the state's scores on the Scholastic Aptitude Test, which is taken by most college-bound students. Fourth, we discuss school dropout rates, which indirectly measure education's success in helping less-successful students.

Demographics of California and Four Comparison States

To understand California's performance, we compared California scores to the scores of four states with similar population characteristics. While this limits the data available to measure school success, the performance of other states provides an understanding of California's relative success in educating its children.

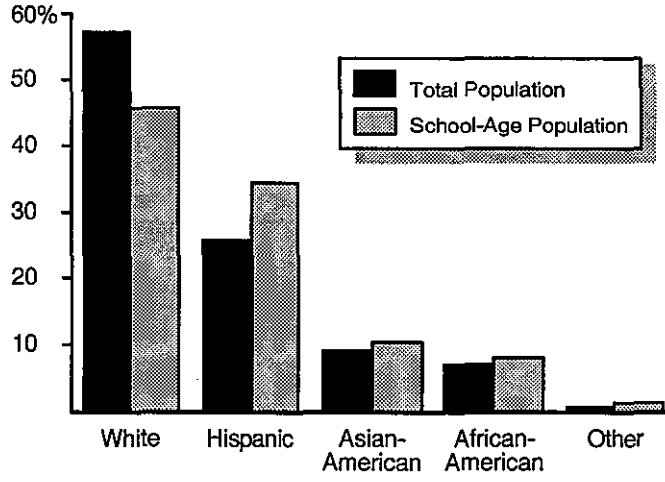
We chose Arizona, Florida, New York, and Texas as our comparison states because the populations of these states are ethnically and linguistically diverse, like California. Texas is the state most similar to California. New York, while not a "sunbelt" state, has a large inner-city population of students similar to populations in some California cities. Arizona, our neighbor, is least like California of the four states. As our neighbor, however, California competes with Arizona for business expansion and commerce.

California Is Racially and Linguistically Diverse

	California	Arizona	Florida	New York	Texas	National Average
Home Language Other Than English	31.5%	20.8%	17.3%	23.3%	25.4%	13.8%
Nonwhite Students	46.3	37.8	34.6	31.6	49.0	30.0
Adults Without A High School Degree	23.8	21.3	25.6	25.2	27.9	24.8
Children Living In Poverty	18.2	22.0	18.7	19.1	24.3	18.3
Expenditures Per Pupil	$4,561	$4,625	$5,280	$8,452	$4,457	$5,241

- Compared to other states, students in California and Texas are more likely to be nonwhite and much more likely to speak a language other than English at home.
- California's percent of adults over 25 years without a high school diploma and percent of children living in poverty are close to national averages.
- California's per-pupil education expenditures for 1991-92 are below national average expenditures. Three of the four comparison states spend more than California and one spends less.
- The data in this figure are from 1990, except for data on nonwhite students (1986), and expenditures (1991-92).

Composition of California's School-Age Children Differs From the Population Overall



- In 1990, 57 percent of California's total population was white, while 46 percent of its school-age population (ages 5 to 17) was white.
- Hispanics constituted 26 percent of the total population and 34 percent of school-age children.

National Assessment of Educational Progress

For more than two decades, the federal government has conducted tests of K-12 students in mathematics and reading known as the National Assessment of Educational Progress (NAEP). Beginning in 1990, the federal government began calculating individual state results in those academic areas. In 1990, state-level results of the eighth-grade test in mathematics were published. In 1992, state results for eighth-grade mathematics and fourth-grade mathematics and reading were published.

This section reviews the 1992 scores for California and the four comparison states. While the NAEP results are perhaps the best data available to compare the relative status of educational achievement among states, the data do not permit a full explanation of the causes for any differences in the performance of individual states.

NAEP tests are designed to measure how well students "are able to meet standards of performance necessary for a changing world." Generally, a difference of 15 points represents about one grade-level difference in achievement. In order to control for differences in state programs, some students identified as special education or limited-English proficient (LEP) were excluded from testing based on specific federal criteria.

As we discuss below, students in California did not do well on the NAEP tests—particularly the fourth-grade students. This low performance signals a pressing need to understand why fourth graders scored so poorly. While the data are instructive, the fourth-grade test represents only one year of data. We hope the federal government continues the state assessments so that a longer record can be assembled.

California's Scores on the 1992 NAEP Are Lower Than Scores of Comparison States

	California	Arizona	Florida	New York	Texas	National Average
Fourth-Grade Mathematics	207	214	212	217	217	217
Difference From California	—	7	5	10	10	10
Fourth-Grade Reading	203	210	209	216	214	216
Difference From California	—	7	6	13	11	13
Eighth-Grade Mathematics	260	265	259	266	264	266
Difference From California	—	5	-1	6	4	6

- California's 1992 NAEP scores are significantly lower than all comparison state scores—except for Florida's eighth-grade math score. California's scores are lower than national averages in all three tests, with the gap ranging from 6 to 13 points. The largest gap is in fourth-grade reading.

- California's fourth-grade mathematics score ranks 38th out of the 41 states participating in the testing program. Its fourth-grade reading score ranked 40th out of 41 states—only Mississippi ranked lower. California's eighth-grade mathematics scores placed the state 29th out of 41 states.

- In the following pages, we discuss the fourth- and eighth-grade mathematics scores. We do not discuss the fourth-grade reading scores further because of their similarity to the fourth-grade mathematics results.

A High Proportion of California's Students Live in "Disadvantaged Urban" Areas

State	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Suburban and Rural
California	12	23	1	65
Arizona	13	10	8	69
Florida	18	21	4	57
New York	15	24	2	58
Texas	10	21	13	56
National Average	9	10	13	67

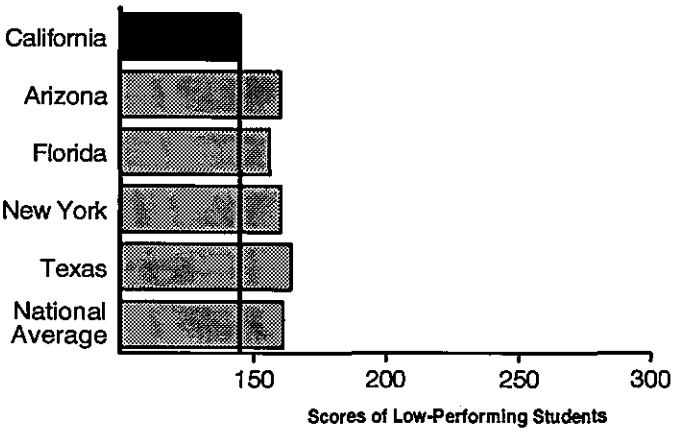
- This figure displays the type of communities fourth-grade students taking the 1992 NAEP resided in. These proportions are very close to the actual proportions of students living in these types of communities in these states.

- California and New York have the highest percentage of students from "disadvantaged urban" areas —metropolitan areas in which a high proportion of students' parents are on welfare or are not regularly employed.

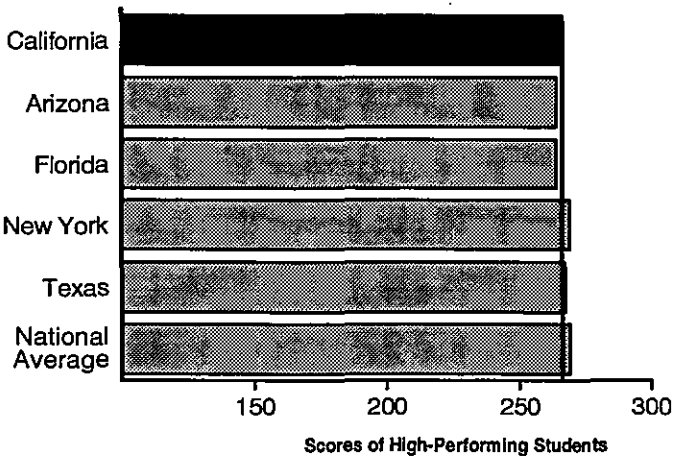
- California has a moderately high percentage of students from "advantaged urban" areas—metropolitan areas where a high proportion of students' parents are in professional or managerial positions.

- "Suburban/Rural" areas include all other California communities, including urban areas that are not defined as advantaged or disadvantaged.

Low-Performing Fourth Graders Score Far Below Comparison Students



High-Performing Fourth Graders Score About the Same as Comparison Students

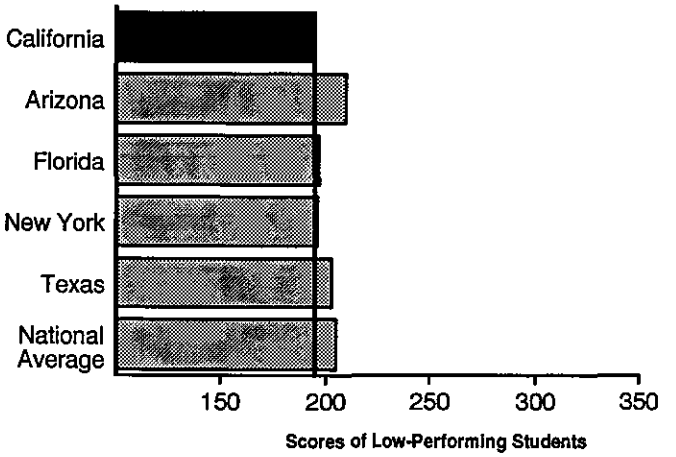


- The figures on the opposite page compare California's fourth-grade mathematics scores with those of other states and the nation. The figures compare scores of two different groups: (1) low-performing students (top chart)—the 5th percentile and (2) high-performing students (bottom chart)—the 95th percentile.

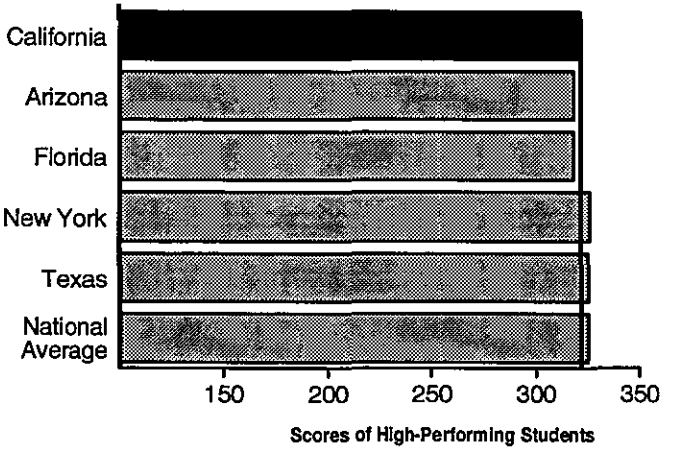
- Scores for California's low-performing students are much worse than scores for low-performing students in the comparison states. The difference is 12 to 20 points, or about one grade level.

- Scores for California's high-performing students are about the same as high-performing students in the comparison states. None of the differences for high-performing students represent meaningful differences in achievement.

Low-Performing Eighth Graders Score Below Comparison Students



High-Performing Eighth Graders Score About the Same as Comparison Students

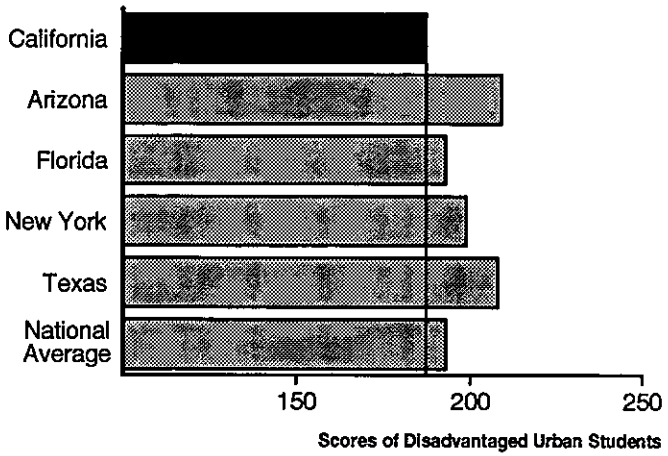


- The figures on the opposite page are similar to the figures on page 10, except that they show scores for the 1992 eighth-grade mathematics test.

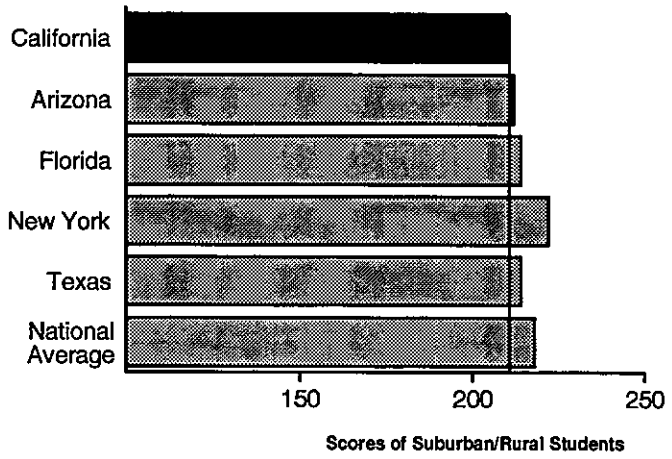
- As with fourth graders, low-performing students in California do worse than low-performing students in the comparison states—up to one grade level worse. The gaps, however, are not as wide as with the fourth graders.

- As with the fourth graders, high-performing students in California score about as well as similar students in other states.

Disadvantaged Urban Fourth Graders Score Far Below Comparison Students



Suburban/Rural Fourth Graders Score A Little Lower Than Comparison Students



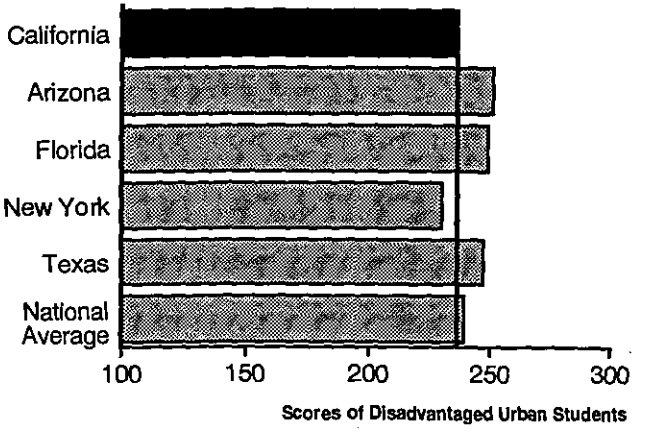
- The figures on the opposite page show the differences between California's scores and comparison-state scores, by type of community, on the fourth-grade mathematics test.

- Scores for California's *disadvantaged urban* students (top chart) are considerably worse than similar students in the comparison states—well over one grade level lower than some states.

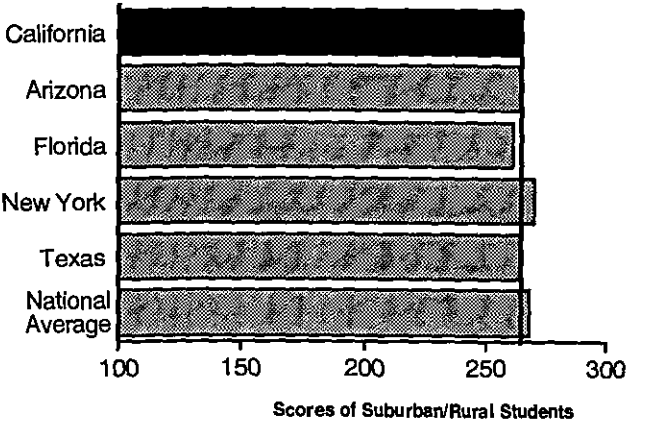
- Scores for California's *suburban/rural* students (bottom chart) are slightly lower than in the comparison states, except for New York, which exceeds California's score by ten points.

- Scores for California's *advantaged urban* students (not shown) are about the same as scores for similar students in the comparison states, except for Texas, which does better than California.

Disadvantaged Urban Eighth Graders Score Below Comparison Students



Suburban/Rural Eighth Graders Score About the Same as Comparison Students



- The figures on the opposite page are similar to the figures on page 14, except that they compare scores for the 1992 eighth-grade mathematics test.

- As with fourth graders, scores for California's *disadvantaged urban* students are generally worse than similar students in comparison states. (California has higher scores than New York.) Again, the gaps are not as great as with the fourth graders.

- Scores for California's *suburban/rural* students are about the same as students from suburban/rural areas in the comparison states.

- Scores for California's *advantaged urban* students (not shown) are about the same as in two of the comparison states. Compared to Arizona and Florida, however, students who live in California's advantaged urban areas do much better.

Large Achievement Gaps Between Students in Different Types of California Communities

	Fourth-Grade Mathematics Scores		Eighth-Grade Mathematics Scores	
	Low Performing	High Performing	Low Performing	High Performing
Advantaged Urban	183	279	224	346
Suburban/Rural	148	264	203	321
Amount Below Advantaged Urban	**35**	**15**	**21**	**25**
Disadvantaged Urban	128	244	175	294
Amount Below Advantaged Urban	**55**	**35**	**49**	**52**

- This figure displays the 1992 scores for high- and low-performing students in California by type of community.
- In fourth grade, there is a large gap between disadvantaged urban scores and advantaged urban scores for low-performing students—55 points, or more than three grade levels. The gap is smaller for higher-performing students. Suburban/rural areas show the same trend, but with a much smaller gap.
- Eighth-grade scores show the gap between advantaged and disadvantaged urban students at about 50 points at all levels of achievement.

SAT Scores of High School Seniors

This section explores the performance of California's high school seniors on the Scholastic Aptitude Test (SAT). The SAT provides colleges a common measure of student aptitude for college—that is, the test is designed to forecast student success in higher education.

As with the NAEP, a number of factors influence student SAT scores. For example, the percentage of students in each state who take the test varies significantly. As the percentage of the senior class taking the test increases, SAT scores usually decline somewhat as more lower-performing students choose to take the test.

SAT tests have been accused of being biased—that questions assume certain cultural information that not all students possess. The tests have been changed over the years in response to this concern. In the absence of other data sources, we believe that scores still provide important information about the capabilities of college-bound students.

As the next three figures indicate, California seniors do relatively well on the SAT. The overall scores, however, mask quite different student performance when scores are examined along racial or ethnic lines.

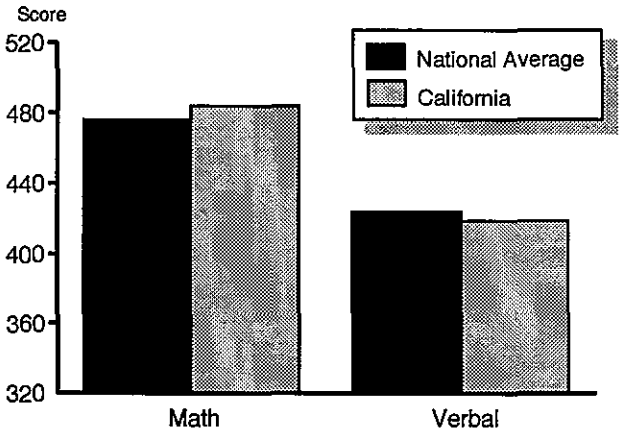
Unfortunately, the data do not permit investigation into factors other than race and ethnicity, such as poverty.

California's 1990 Average SAT Score Was Virtually the Same as the National Average

State	SAT Score	Percent of Students Tested
California	897	47%
Arizona	932	26
Florida	882	48
New York	881	75
Texas	874	44
National Average	896	45

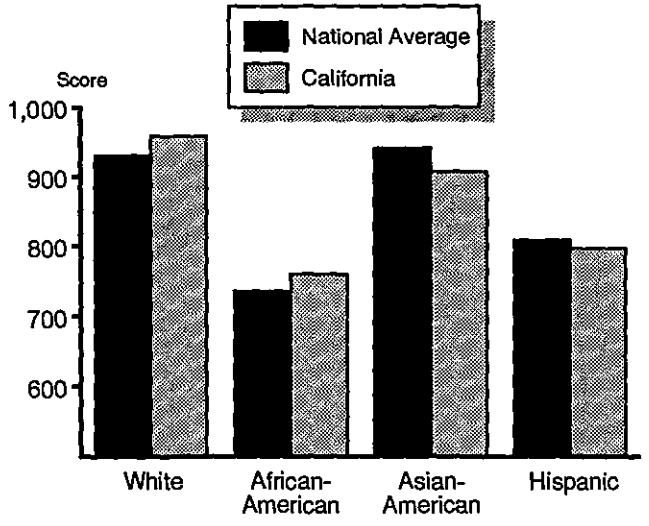
- California's average SAT score was virtually the same as the national average in 1990. Its average score exceeded three of the four comparison states.
- California's score was higher than the scores of the two states with similar percentages of students tested—Florida (15 points) and Texas (23 points).
- New York's average score is impressive, considering that half-again as many seniors took the SAT as in California.

California's Mathematics Score Higher Than National Average; Verbal Score Lower



- This figure displays 1990 mathematics and verbal SAT scores for California and the nation.
- California students score about eight points *higher on* the mathematics portion of the test and about eight points *lower* on the verbal part.
- Lower verbal scores may be due at least in part to the higher percentage of students in California who speak a language other than English at home.

Scores for Ethnic/Racial Groups Differ From National Averages



- This figure displays 1990 average SAT scores for California and the nation by race and ethnicity.
- Asian-American and Hispanic students in California score below the national average for those groups. Whites and African-Americans in California score above the national average.
- These disparities suggest that schools—in California and nationally—have not adequately addressed educational issues raised by cultural and linguistic diversity.

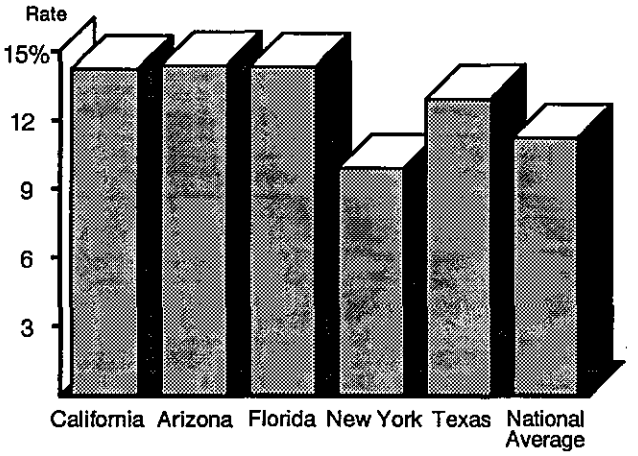
High School Dropouts

At the other end of the achievement spectrum from SAT test-takers are dropouts. Studies have shown that students who drop out of school are more likely to be lower-performing students prior to leaving.

Despite the importance of reducing dropout rates, data on school dropouts are relatively poor. States define and collect dropout data in different ways, making comparisons difficult. Differences among school districts create similar problems in comparing dropout rates within California.

While California fares poorly in comparison to the selected states, dropout rates appear to be declining. As with NAEP and SAT scores, significant differences appear when data are arrayed based on race and ethnicity. Unfortunately, the data generally do not permit examination of other factors, such as family income and education, that could affect dropout rates.

California Has a High Dropout Rate

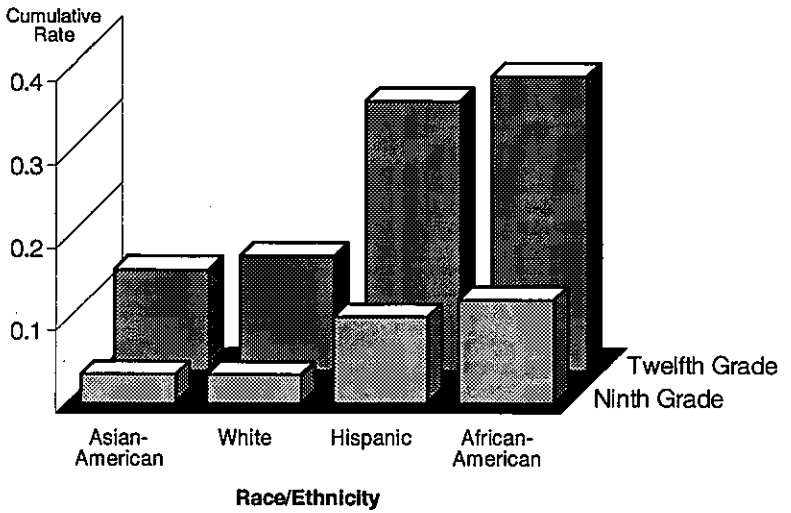


- This figure shows the percentage of youth ages 16 through 19 who are not in school and do not have a high school diploma for California, the comparison states, and the nation as a whole. These data are based on census counts.

- California, Arizona, and Florida show dropout rates exceeding 14 percent in 1990.

- In contrast, New York and the nation as a whole have substantially lower rates—about 10 percent and 11 percent, respectively.

Dropout Rates Vary Significantly By Race and Ethnicity

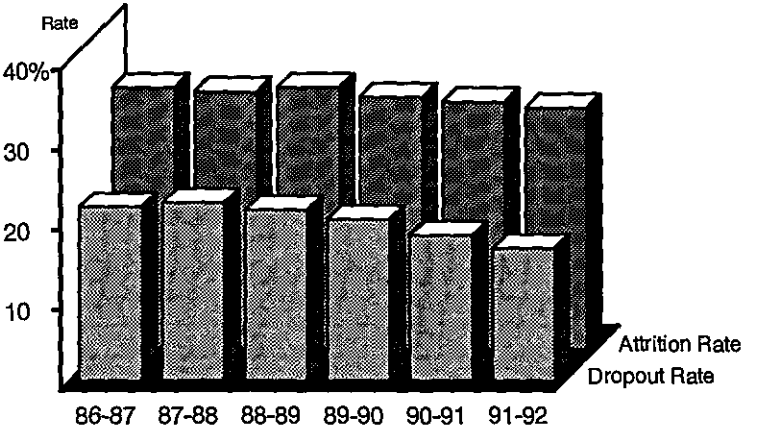


- This figure shows how California's dropout rate accumulates by ninth grade and by twelfth grade. These data are collected by schools and are not comparable to data in the figure on page 15.

- By the end of ninth grade, 3.5 percent of white and Asian-American students have dropped out. During the tenth through twelfth grades, about 3 percent of each class drops out each year, yielding a total six-year dropout rate for these two groups of 14 percent.

- The rates for African-Americans and Hispanics are much higher, however. Dropout rates by the end of ninth grade for these groups total about 11 percent. During the tenth through twelfth grades, 9 to 10 percent of students drop out each year, resulting in a total six-year dropout rate of more than 30 percent.

California's Dropout Rates Are Declining



- This figure displays three-year dropout rates (dropouts in tenth through twelfth grades only) from 1986-87 through 1991-92.
- Reported three-year dropout rates have declined significantly in California since 1987-88. The dropout rate stood at 17 percent in 1991-92, a decline of five percentage points since 1987-88.
- The attrition rate (the percentage of tenth-grade students who do not graduate from the same district three years later), however, fell only 2.1 percentage points over the same period. The relatively smaller drop in attrition rates suggests the decline in the dropout rate may be overstated. This lends credence to concerns about the dropout data expressed by some educators.

CONCLUSION

In this report, we have compared the performance of California students with the performance of students from states with populations as diverse as California's. While the data represent a snapshot rather than a long-term view, they provide important insights into how well public education is doing.

The data suggest a very divided student population in California. The higher-performing students—who often come from more advantaged neighborhoods—do about as well as similar students in comparison states. Low-performing students, on the other hand, fare considerably worse than low-performing students in comparison states.

This finding clearly demonstrates the need to focus particular effort on improving the achievement of low-performing students. The failure to adequately address the needs of these students not only carries serious consequences for the individuals, but for society as a whole. Education has long been considered the avenue to greater opportunity. The achievement disparities noted here raise the specter of a two-tiered society, where public education no longer provides to many the tools needed for a better life.

The achievement of California's students is also an important factor in the health of the state's economy. If businesses perceive that the typical student in California is less proficient than in other states or countries, companies may look elsewhere to locate or expand.

While there is no one strategy to improve educational performance, policymakers can contribute to the long-term success of the educational system. Improving the achievement of low-performing

students should be a high priority. Promoting local implementation of school-to-work programs is one avenue to improve academic and career opportunities for students who typically do not continue on to college after high school. In addition, policymakers can review whether programs targeted at low-performing students are sufficiently flexible, targeted, and funded to give local educators the tools needed to successfully address the needs of these students.

More generally, however, policymakers should be looking broadly at K-12 education to improve educational services for all students. The lesson of previous education reform is that improvements in education occur in the classroom. The state or federal government can encourage, but not accomplish, this goal. Therefore, policymakers should concentrate on supporting reform at the local level rather than mandating a new set of programs. A revision of the state's complex categorical program structure is one step that could encourage more successful local programs.

Improving the quality of educational data and training teachers and administrators to use that data to improve local programs is another important step. Outcome data are essential to understanding the success of local programs and of state efforts to improve schools. As we discussed in this report, very little comparable data are available and what exist are difficult to interpret. Educational data must improve to allow a deeper understanding of student performance and the factors that contribute to those outcomes.

This report was prepared by Paul Warren under the direction of Carol Bingham. For information about this report call Mr. Warren at 445-8641. For additional copies contact the Legislative Analyst's Office, State of California, 925 L Street, Suite 1000, Sacramento, CA 95814, (916) 445-2375.

Legislative Analyst's Office
925 L Street, Suite 1000
Sacramento, CA 95814