

# California's Teaching Force Key Issues and Trends **2006**

*The Center for the Future of Teaching and Learning*

**Research conducted by SRI International**

Teaching and  
California's  
Future



# Steps in the Right Direction

## California's Ongoing Quest for Teacher Quality

### *Demonstrating Political Will*

A year ago, we offered California's policymakers a blunt, pointed appeal to put aside partisan differences and demonstrate the political courage required to build a stronger teaching force for the state's 6.3 million students.

We offered hard data on the number of underprepared teachers, which students they were teaching and how the state's infrastructure for building teaching capacity had been seriously damaged. We also offered projections on how the growing number of teacher retirements would exacerbate the shortage of fully prepared teachers.

To their considerable credit, policymakers responded with a mixture of political leadership, major legislative changes and additional resources. We expect their efforts will make a substantial difference.

This legislative package should give local districts and schools more opportunities and resources to hire and retain quality teachers, but thoughtful implementation ultimately will determine whether the legislation is successful. It will take time to change the conditions within schools that served as the catalyst for the policy community to act. But we believe these legislative remedies — and others still needed — can go a long way toward ensuring that all California students have the effective teachers they need.

California students face increasingly high stakes. The state steadily has increased what they must learn to succeed in a complex and competitive world. And despite progress over the past few years, the students from our poorest communities, the students most in need of excellent teachers, continue to be placed in classrooms with the teachers who are the least prepared to help them.

The urgency only will increase as veteran teachers retire in record numbers, creating even more demand for new teachers in high-growth areas of the state. California will need to provide encouragement and incentives to draw effective teachers to challenging assignments, including teaching in low-income communities; teaching special education students; and teaching in subjects, such as mathematics and science, in which there are too few fully prepared teachers.

Since 1999, we have issued annual reports on the status of California's teaching profession. These reports all have been based on solid research, as is our work this year. Here, we offer a brief summary of the latest research coupled with several fact sheets to shed light on the state's teaching force. A more detailed research report is available on our Web site ([www.cftl.org](http://www.cftl.org)).

### *Quantity vs. Quality*

A decade ago, California reduced the size of its elementary school classes, immediately driving up the demand for teachers, who already were in short supply. Suddenly, schools were employing tens of thousands of teachers who had no teaching credential and, in many cases, no preparation to teach.

The headlines then, and often since, were about the number of these "emergency permit" teachers, the overwhelming majority of whom worked in the schools with the poorest children and the lowest academic achievement.

Swamped by the high demand, the state focused on helping school districts bring a record number of teachers into classrooms, many on an emergency basis. The state also expanded "intern" programs to help teachers who already had a college degree, but no teacher training, work toward

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a full credential. Progress was measured by things that were easily quantifiable — the number of teachers who had a preliminary teaching credential or those who were teaching subjects for which they actually were prepared.

A preliminary teaching credential, however, is only a threshold for entry into the profession. Given the high stakes for students — and for the long-term future of California — the state needs to build, maintain and measure the ability of the teacher development system to produce professionals who make a difference in the achievement of their students. It is much harder to measure effectiveness than to count credentials, but it is critical to building a stronger teaching workforce.

### *Higher Stakes for Students and Schools*

Like many states, California has responded to the knowledge economy by setting higher standards for its students and testing them annually. Now, for example, to get a diploma, high school students must pass the state’s exit examination, which tests literacy and mathematics at approximately eighth- and ninth-grade levels. This past spring, the first time the test was required, nearly 40,000 seniors did not pass, and about half of these students did not get a diploma as a result (the other half were not eligible for graduation for other reasons, including required credits, grades and attendance). (See *Fact Sheet 1*.)

At the same time, the No Child Left Behind Act requires schools to move steadily increasing percentages of their students to proficient levels on state

tests. As those percentages have increased, the number of “program improvement” schools on the state watch list has climbed to 2,215, growing 25 percent in the past year — and the rapid increase in “failing” schools is expected to continue.





According to the state tests, California students have done steadily better over the past few years. Their scores have gone up, just not nearly fast enough to keep up with the increasing federal requirements. And while test scores have gone up for all students, including those of color, a wide achievement gap still separates groups of students. For example, in math, 40 percent of students scored at the proficient level in 2006, including 53 percent of white students and just 30 percent of Latino students and 24 percent of African American students. And even as many more students are taking algebra, only 23 percent of students scored at the proficient level in this subject, including 33 percent of white students, 14 percent of Latino students and 11 percent of African American students.

California is unique, not only for its size but also for the number of its students who are not prepared to succeed in college or the workplace without significant remediation. When the state tested high school juniors last spring, only 25 percent were considered to be ready — without remediation — for English courses in the California State University system, and only 55 percent were deemed ready in mathematics.

### *Legislative Attention*

After our last report came out in December 2005, legislative leaders introduced a set of bills that featured the dual themes of equity and teacher quality. They passed, and the governor signed into law, SB 1209 (Scott), SB 1133 (Torlakson) and SB 1614 (Simitian), as well as appropriated additional resources through the budget act (*see Fact Sheet 7*). Taken together, these initiatives:

- Target investments to address the needs of the state's lowest-performing schools;
- Provide more flexibility to local education leaders;
- Streamline and simplify requirements in recruiting, credentialing, placement and professional development;
- Strengthen the preparation and professional development of all beginning teachers with special emphasis on interns assigned to low-performing schools; and
- Establish a teacher data system to better understand the make-up of the teacher workforce.

### *Fewer Underprepared Teachers*

California has always had some underprepared teachers, but the numbers blossomed when the state cut class sizes in the mid-1990s.

Four years ago, we reported that about 42,000 of the state's approximately 307,000 teachers were underprepared, which we have defined as those who have yet to obtain a preliminary California teaching credential. That number has declined steadily — during the last school year, the number of underprepared teachers was slightly less than 18,000, including about 8,300 interns, whom the state defines as "highly qualified" for purposes of meeting the requirements of the federal No Child Left Behind Act (*see Fact Sheet 2*).

For the school year that begins in late summer 2007, that federal law will prevent more than 8,000 of California's underprepared teachers from continuing to teach unless they obtain a preliminary teaching credential or an intern credential.

“*Californians care deeply about improving their schools, and the most certain way to increase the achievement of students is to provide them with highly skilled teachers.*”

### *Distribution — Consistent Unfairness*

As the new legislation notes, the distribution of California’s underprepared and novice teachers is far from even across the state. While the total number of underprepared teachers has decreased over the past several years, there has been a consistent unfairness of distribution.

The numbers look quite similar whether we examine the distribution by students’ poverty, race or academic achievement — the students who are doing the worst have the least-prepared teachers (*see Fact Sheets 3 and 4*).

And far too often, these students do not have underprepared teachers just once but several times in their school career. For example, a sixth grader in the state’s lowest-achieving quarter of schools has a four in 10 chance of already having had an underprepared teacher and a one in four chance of having had more than one such teacher. But a sixth grader in the state’s highest-achieving quarter of schools has only a two in 10 chance of having had an underprepared teacher and a one in 50 chance of having had more than one underprepared teacher (*see Fact Sheet 3*).

With this year’s legislative action, the neediest schools and districts should see new resources to provide good teachers to the students who need them the most — students who are poor, students who are learning English and students who have disabilities.

### *Teacher Experience and Knowledge*

The problem policymakers face would be solved more easily if it were only about dealing with underprepared teachers. It is not.

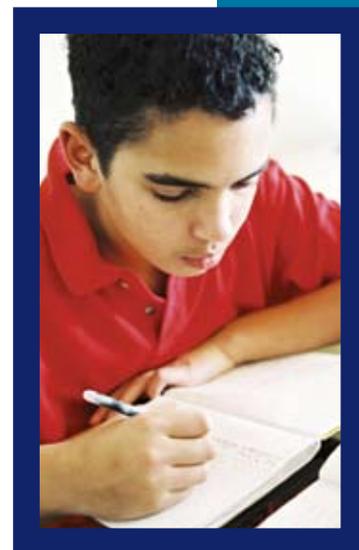
In addition to getting a disproportionate share of underprepared teachers, poor and minority students get their share of the state’s novice teachers. This combination increases the challenge for high-need schools.

The education research is quite clear — rookie teachers in their first or second year are significantly less effective than more experienced teachers.

In California, the number of first- and second-year teachers has been growing over the past few years. In the 2005–06 school year, approximately one in every eight teachers was a rookie — 36,709 teachers. These teachers, added to underprepared experienced teachers, were nearly twice as likely to be working in the lowest-achieving schools as those with higher achievement (*see Fact Sheets 3 and 4*).

The first two years of teaching — when novices learn the ropes and begin to understand the demands of the classroom — are the most difficult. Good teaching requires skill and knowledge acquired through experience. But in too many of our highest-need schools, the density of novice teachers overwhelms the capacity of veteran faculty members to provide the kind of mentoring that novices need to succeed.

Such disparities are equally troubling when we look at key subjects such as mathematics and science. Middle and high school students taking math in schools that have the highest





proportion of minority students, for example, are four times as likely to have an underprepared teacher as students in schools with the lowest proportions of minority students (see *Fact Sheet 4*). The ratio is just as discouraging when we look at underprepared teachers who are teaching science.

The maldistribution continues for special education students. In 2005–06, about one in eight special education teachers in the state (12 percent) was underprepared. That number by itself is problematic, but in high-minority schools, the proportion of underprepared teachers rises to 18 percent while it is just 7 percent in low-minority schools. The situation will take time to remedy — nearly half (45 percent) of novice special education teachers are underprepared.

This dramatic inequity in the state’s low-achieving, high-minority schools is what drove policymakers to focus resources on the schools most in need of good teachers.

But California’s teaching problems are not by any means isolated to schools in poor communities. Across the state — not just in low-achieving schools — far too many fully credentialed high school teachers are teaching subjects in which they have not been trained. In math, one in every eight teachers is teaching out of field; in physical science, one in every five teachers is out of field (see *Fact Sheet 4*).

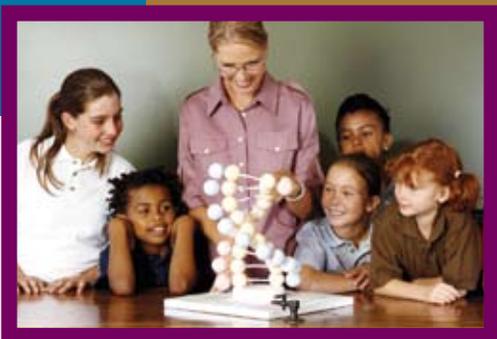
### *Warning Signs and Opportunities*

Policymakers deserve credit for California’s lower number of underprepared teachers and for their legislative efforts to strengthen the teaching force.

But policymakers also should know that there are additional warning signs on the horizon, including:

- Veteran teachers will continue to retire in record numbers — about 100,000 in the next decade (see *Fact Sheet 5*).
- The production of new teachers has declined in the past year, and the number of students going into teaching programs has gone down considerably.
- The demand for teachers is quite uneven; the teacher labor markets are regional and are not consistent state-wide. In many communities, particularly along the coast, student enrollment is going down. But in the inland portion of the state, enrollment is going up rapidly — and that is where the biggest teacher shortages are likely to occur (see *Fact Sheet 6*).
- The \$2.9 billion settlement between the governor and the California Teachers Association calls for further class-size reduction in the lowest-performing schools, which will require more teachers.
- There continues to be a severe shortage of special education teachers and no adequate state policy to produce a sufficient number of such teachers.
- Despite repeated calls from the business and scientific communities to substantially increase the rigor and quality of math and science teaching, there is no current state policy to either produce large numbers of new math and science teachers or expand the capacity of current teachers.

All of these issues, coupled with an improving economy, may entice some teachers to leave the classroom (or never go into it) and could further exacerbate the shortage of the well-prepared teachers California needs.



*“We hope that the governor, the Legislature and education leaders will continue to extend this year’s efforts to ensure that every California student is taught by a well-prepared and effective teacher.”*

## *Conclusion and Next Steps*

We applaud the state’s policymakers for their efforts to improve the state’s teaching force. It is not easy work. Californians care deeply about improving their schools, and the most certain way to increase the achievement of students is to provide them with highly skilled teachers.

We believe the persistence of state and local education leaders and policymakers on this issue is an investment that will provide California with long-term dividends.

We also believe that California policymakers need a fresh look at the quality of the teacher workforce that goes beyond the threshold of a credential. The Center for the Future of Teaching and Learning has begun a foundation-funded examination of teacher quality and will share our initial findings in 2007.

We hope that the governor, the Legislature and education leaders will continue to extend this year’s efforts to ensure that every California student is taught by a well-prepared and effective teacher.

We urge policymakers to:

- Closely monitor and evaluate the implementation of the new legislation and use these data to inform decisions at

the state and local levels to build comprehensive, cohesive programs to address equity, student achievement and teacher workforce issues.

- Recognize that the economic health and well-being of the state require a comprehensive action plan to address the critical shortage of mathematics and science teachers. Such a plan should address all aspects of the mathematics and science teacher development system, including recruitment, preparation, hiring, induction and professional development.
- Encourage and support the growing role of community colleges in the early preparation of teachers likely to teach in high-need schools.
- Provide sufficient incentives for teachers willing to prepare for a career in special education.
- Increase professional development opportunities for teachers of science — especially at the elementary level where the basic building blocks of scientific literacy are put into place.

Please see our full research report at [www.cftl.org](http://www.cftl.org) for a detailed set of recommendations.

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**THE CENTER**  
FOR THE FUTURE OF TEACHING & LEARNING

133 Mission Street, Suite 220  
Santa Cruz, CA 95060  
831.427.3628  
[www.cftl.org](http://www.cftl.org)

The Center for the Future of Teaching and Learning

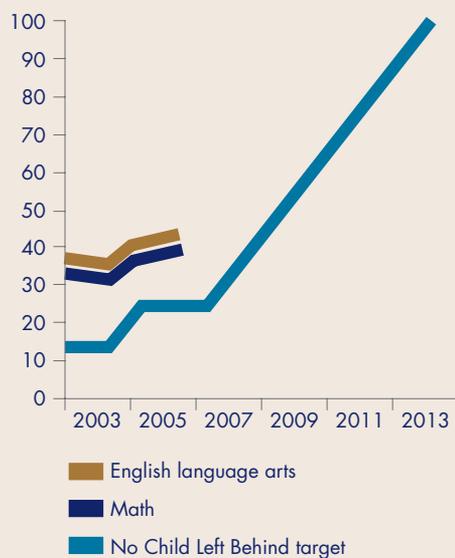


## Student Achievement: Improving but Not Fast Enough

Students at every grade are making progress — in 2006, 42 percent of California students scored proficient or higher in English language arts on the California Standards Test. Forty percent scored proficient or higher in math. The goal set by the federal No Child Left Behind law is 100 percent of students scoring proficient or higher in both subjects by 2014.

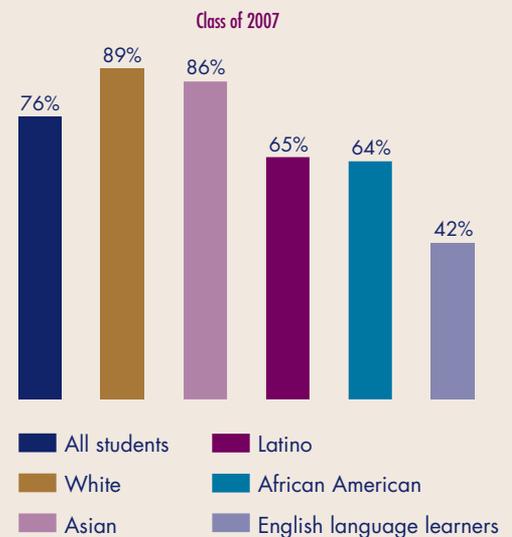
But achievement gaps persist at every level — poor and minority students have farther to go to reach proficiency than white, more affluent students. For example, if we look at the first time this year's seniors — the class of 2007 — took the state high school exit exam, the differences are striking between groups.

**Percentage of Students Scoring Proficient or Higher on California Standards Test**



Source: California Department of Education.

**Percentage of First-Time Test Takers Passing the California High School Exit Exam, English**



Source: California Department of Education.

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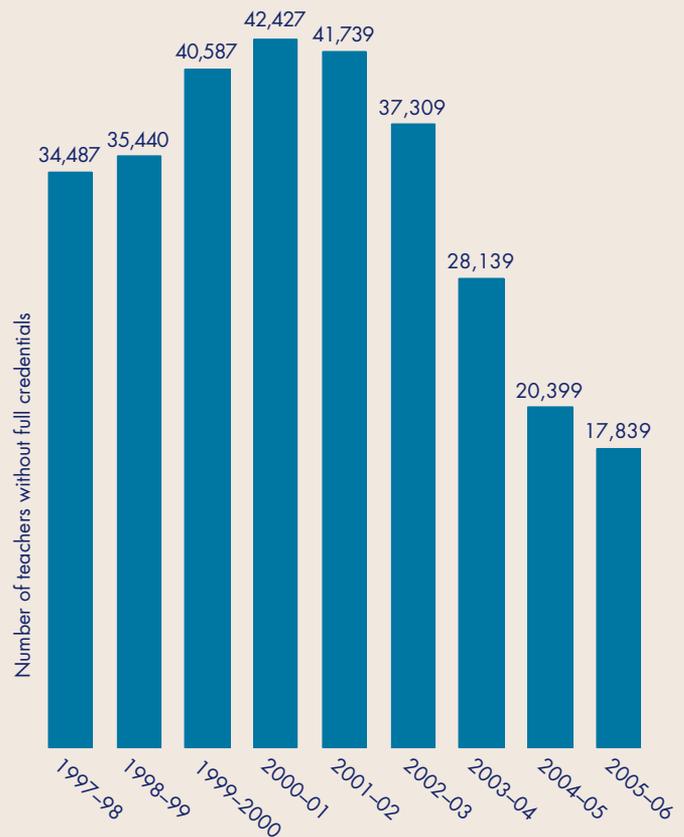


## Number of Underprepared Teachers Continues To Decline

After spiking six years ago, the number of underprepared teachers in California has declined steadily. Then, about one out of every seven teachers was underprepared, but now that ratio is about one out of every 17 of the state's 308,000 teachers.

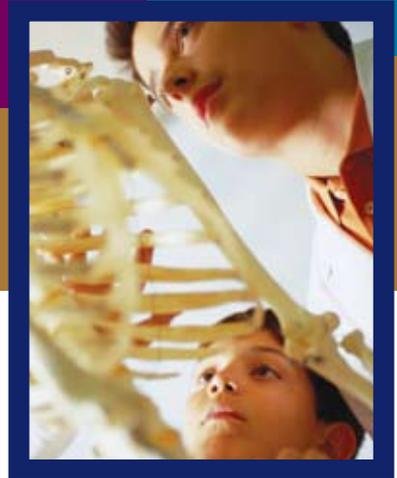
For the school year that begins in late summer 2007, the federal No Child Left Behind law will prevent about 8,000 of California's nearly 18,000 underprepared teachers from continuing to teach unless they obtain either an intern credential or a preliminary teaching credential.

**California's Underprepared Teachers, 1997-2006**



Source: California Department of Education.

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## Inequity Remains: Neediest Students Routinely Get Least-Prepared Teachers

The most important variable in whether students succeed in school is their teachers. In California, poor and minority students, those who need highly accomplished teachers, are far more likely to be assigned teachers who are underprepared or new to teaching.

For example, students in the lowest-achieving quarter of schools are three times more likely to face an underprepared teacher than those students in the highest-achieving quarter of schools. And minority and poor students are far more likely to face a string of underprepared teachers and fall even further behind.

### Maldistribution 2006: The Odds for Sixth Graders

For California sixth graders, the odds of having had **one under-prepared teacher** if they are in schools in the:

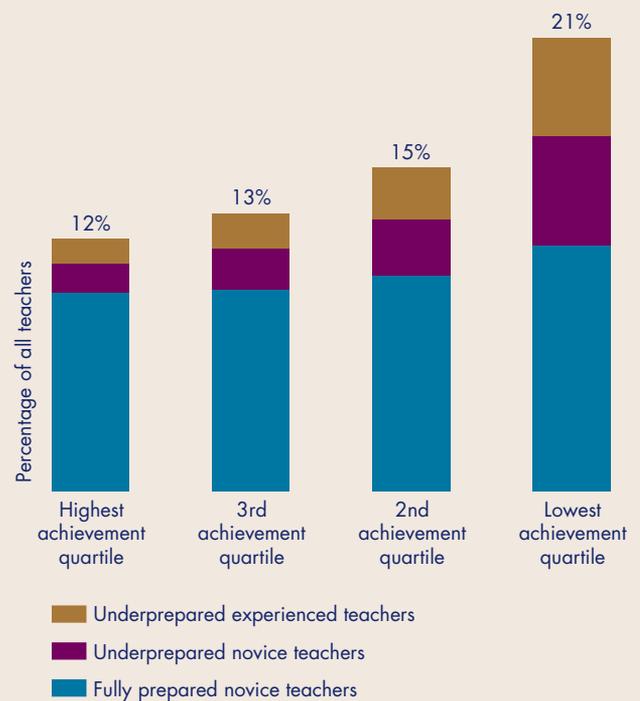
lowest achievement quartile:	4 in 10
highest achievement quartile:	2 in 10

The odds of having had **more than one underprepared teacher** if they are in schools in the:

lowest achievement quartile:	1 in 4
<b>highest achievement quartile:</b>	<b>1 in 50</b>

Source: California Department of Education and SRI analysis.

### Underprepared and Novice Teachers by Achievement Quartiles on Academic Performance Index, 2005-06



Source: California Department of Education.

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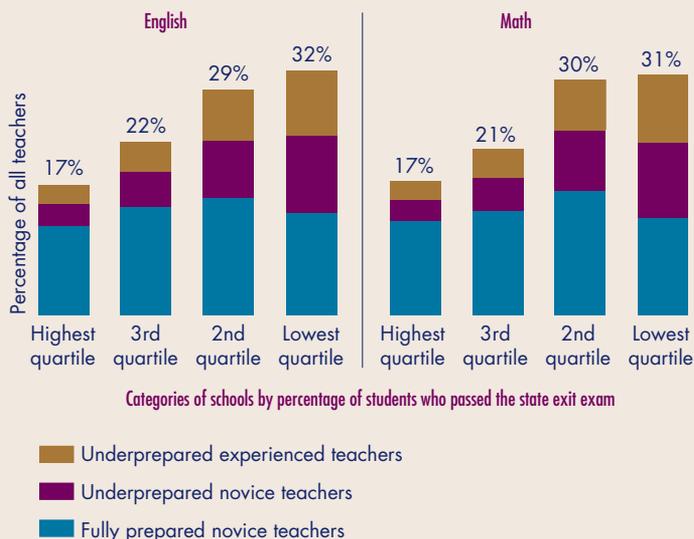


## Key Subjects: High Stakes, Shortages and Inequity

Starting last spring, high school seniors must pass the state's high school exit exam to earn a diploma. Nearly 40,000 seniors in the class of 2006 failed the exam, which tests mathematics and literacy, and far more of the students who failed are in schools with higher percentages of underprepared teachers.

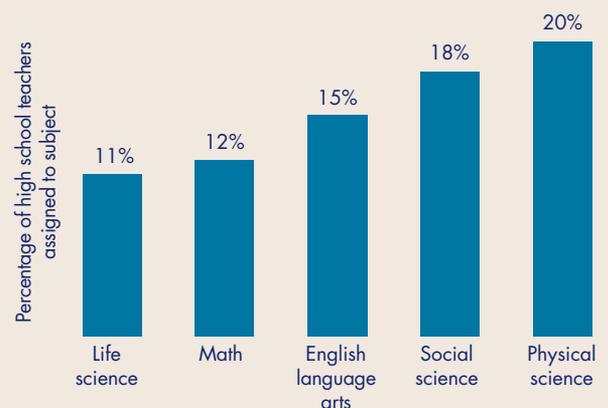
But across the state, too many teachers in core subjects — math, science and English — do not have the background to teach these courses. And students taking math and science in schools that have the highest proportion of minority students are about four times as likely as students in schools with the lowest proportions of minority students to have an underprepared teacher.

### Underprepared and Novice Teachers by School-Level Percentage of Students Passing State Exit Exam, 2005–06



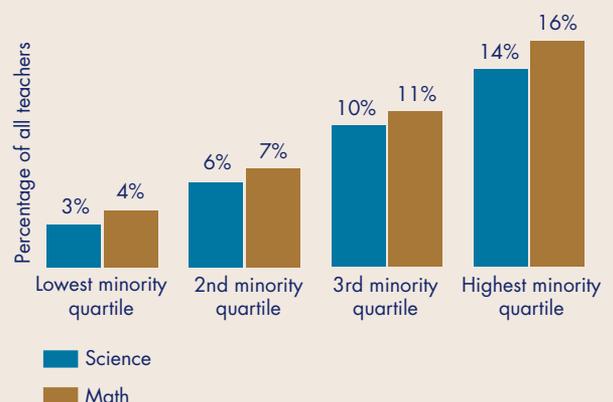
Source: California Department of Education.

### Percentage of Out-of-Field High School Teachers in Core Subjects, 2005–06



Source: California Department of Education.

### Distribution of Underprepared Science and Math Teachers by School-Level Percentage of Minority Students, 2005–06



Source: California Department of Education.

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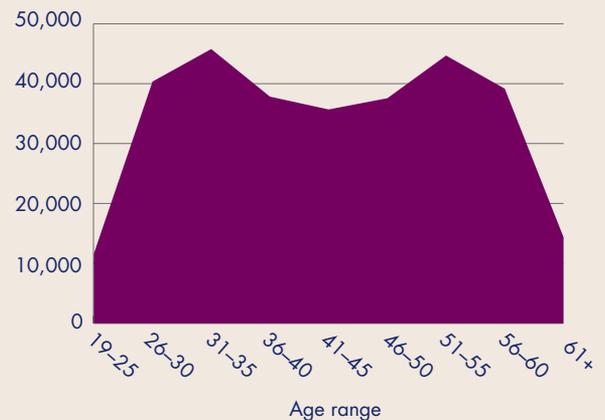


## Teacher Retirements Up, but Production Down

As baby boom teachers age and retire in the next several years, California will have to replace about 100,000 of its 308,000 teachers.

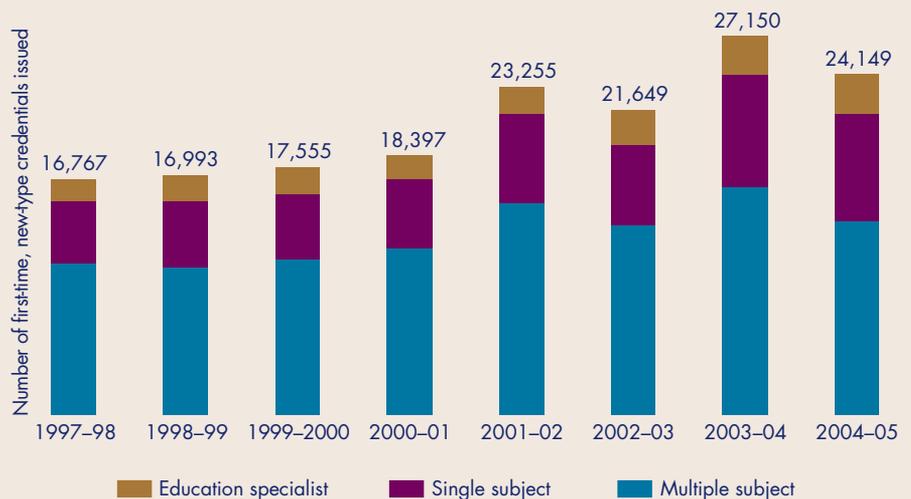
But after several years of increases in the number of new teachers produced, the production of newly credentialed teachers has slowed, and the number of students entering teacher preparation programs is going down.

**Age Distribution of K-12 Public School Teachers, 2005-06**



Source: California Department of Education.

**New Preliminary Teaching Credentials Issued, 1997-98 to 2004-05**



Source: California Commission on Teacher Credentialing.

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## Underprepared Teachers Distributed Unevenly across State

The distribution of underprepared teachers is far from even across the state, with most of them being in just 10 of California's 58 counties.

The demand for teachers will follow student enrollment, which is declining in some parts of the state and rising rapidly in others, particularly inland regions with lower housing costs.

**Public K-12 Enrollment Change, 2004-14**



Source: California Department of Finance.

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## 2006 Legislative Action: Heading in the Right Direction

After our last report came out in December 2005, legislative leaders responded with a sense of purpose. The Legislature passed and the governor signed into law several bills that will strengthen the teaching profession, including:

- **SB 1209**, authored by Senate Education Chairman Jack Scott, which will streamline entry into the teaching profession through simplified credentialing requirements and reduced barriers to out-of-state teachers, provide stipends for veteran teachers to mentor novice teachers, provide a more equitable distribution of "intern" teachers, provide additional professional development for teachers of English language learners, and create assistance teams to help districts hire and assign teachers.
- **SB 1133**, authored by Sen. Tom Torlakson, which implements the \$2.9 billion settlement between the governor and the California Teachers Association over what schools were entitled to under the previous year's budget. It focuses exclusively on the lowest-performing 20 percent of schools. It provides the opportunity to reduce class size, offer more professional development and counselors in those schools, and tie dollars to improvement in student performance.
- **SB 1655**, authored by Sen. Jack Scott, which eliminates hiring delays in high-need schools by setting a deadline for voluntary teacher transfers and allows principals to accept only those transfers that meet the needs of their schools.
- **SB 1614**, authored by Sen. Joe Simitian, which implements a data system to track California's teacher workforce, making it much easier for policymakers to monitor the status of the teacher development system.

These bills contain the dual themes of equity and teacher quality. It is in low-performing schools that principals will get more discretion in hiring, interns will get more support from mentors and additional resources will be available to improve working conditions. These bills and others came during a year when the state budget situation improved dramatically and new money was appropriated for a wide range of school programs, including art, music and physical education.

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## Recommendations

### We Urge Policymakers to:

**Closely monitor and review the implementation of legislation enacted in 2006 designed to strengthen teacher preparation, recruitment, development and retention.**

- The goal of this review would be to identify any additional improvements and refinements needed in the state's system of teacher development that will ensure that every child has a fully prepared, capable and caring teacher.

**Continue to build the capacity of California's teacher workforce to provide for equity and student achievement.**

- Include funding in the state budget to continue the Governor's Block Grant, providing funds statewide to all school districts and giving priority to the preparation, recruitment, and retention of teachers willing to serve in special education classrooms and to provide intensive professional development to teachers who are assigned out of their subject matter field.
- Review patterns of decreasing enrollment in the state's teacher preparation programs in light of the impending teacher retirement boom and, based on this review, provide targeted incentives in the state budget for teacher preparation programs willing to expand their capacity to prepare teachers, especially in shortage areas such as special education, mathematics and science.
- Ensure adequate funding for institutions of higher education with teacher preparation programs to implement mandated teacher performance assessment requirements.
- Create a comprehensive program of grants and loans to prospective teachers to cover costs associated with tuition, materials and living expenses by consolidating a recreated Governor's Teaching Fellowship with a redesigned Assumption Program of Loans for Education (APLE), assigning highest priority for prospective and underprepared special education teachers.
- Eliminate remaining barriers for retired teachers willing to accept assignments in shortage areas for which they are fully prepared, and/or serve as mentors to novice teachers.
- Encourage the use of statewide demographic and teacher distribution data by the Regional Personnel Management Assistance Teams (Chapter 3.8 of Chapter 517 Statutes of 2006) to review personnel practices that facilitate the timely hiring and placement of prepared teachers for the ten fastest growing counties in the state.

- Based on a review of the Superintendent of Public Instruction's plan for providing technical assistance to joint public school employers and exclusive representatives for the design of innovative salary schedules for teachers as authorized by Chapter 517, Statutes of 2005 (SB 1209 Scott), provide support for selected local projects through the Budget Act.
- Appropriate funds in the state budget to continue development of the California Longitudinal Integrated Teacher Data System (CALTIDES) established by Chapter 840 statutes of 2006 (SB 1614, Simitian) while adopting a long-term funding mechanism to ensure that the system can annually provide essential teacher workforce information to state and local policy-makers.

**Recognize that the economic health and well-being of the state requires a comprehensive approach to address the critical shortage of mathematics and science teachers. The comprehensive approach should build on the recommendations of the California Council on Science and Technology (CCST) in "California's Response to Rising Above the Gathering Storm" to address all aspects of the mathematics and science teacher development system including recruitment, preparation, hiring, induction and professional development.**

- Strengthen the capacity of the existing workforce by targeting professional development to teachers assigned to math and science classrooms who are not fully prepared for their assignments, and by encouraging the University of California and the California State University to provide comprehensive, content-based professional development for credentialed math and science teachers through the California Subject Matter Projects, specifically designed math/science institutes, or other suitable means.
- Recognize the importance of the Memorandum of Understanding between the California Community Colleges and the California State University in creating a streamlined and strengthened pathway for aspiring teachers by extending these efforts to address articulation agreements between the two systems to support a pipeline for aspiring teachers of math and science.
- Create tax incentives for science and technology-based businesses and industries willing to offer summer employment to teachers of science and mathematics, thereby offering these teachers year-round employment and opportunities for professional growth.