Teaching and California's Future

California's Teaching Force 2004
Key Issues and Trends

The Center for the Future of Teaching and Learning

and

California State University, Office of the Chancellor
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Abbreviations

API	Academic Performance Index
APLE	Assumption Program of Loans for Education
AYP	Adequate Yearly Progress
BTSA	Beginning Teacher Support and Assessment
CAHSEE	California High School Exit Examination
CalSTRS	California State Teacher Retirement System
CalTeach	California Center for Teaching Careers
CaMSP	California Mathematics and Science Partnership Program
CBEST	California Basic Educational Skills Test
CDE	California Department of Education
CDOF	California Department of Finance
CFASST	California Formative Assessment and Support System for Teachers
COLA	Cost of Living Adjustment
CPDI	California Professional Development Institutes
CSET	California Subject Examination for Teachers: Multiple Subjects
CSMP	California Subject Matter Projects
CSR	Class Size Reduction
CST	California Standards Test
CSTP	California Standards for the Teaching Profession
CSU	California State University
CTAC	California Technical Assistance Center
ECI	Early Completion Internship
ELL	English Language Learner
HOUSSE	High Objective Uniform State Standard of Evaluation
IHE	Institution of Higher Education
IIC	Individual Internship Certificate
ITSDR	Instructional Time and Staff Development Reform
LAO	Legislative Analyst's Office
LAUSD	Los Angeles Unified School District
MRPDP	Mathematics and Reading Professional Development Program
NAEP	National Assessment of Educational Progress
NCLB	No Child Left Behind Act
OERI	Office of Educational Research and Improvement
PACT	Performance Assessment for California Teachers
PAIF	Personnel Assignment Information Form
PAR	Peer Assistance and Review
PTTP	Paraprofessional Teacher Training Program
RIC	Reading Implementation Centers
RTAC	Regional Technical Assistance Center
STAR	Standardized Testing and Reporting
TAP	Teaching as a Priority
TCF	Teaching and California's Future
TPA	Teacher Performance Assessment
TPE	Teacher Performance Expectation
TRIP	Teacher Recruitment Incentive Program
UC	University of California
UCOP	University of California Office of the President

Contents

Appendices

Exhibits

Chapter 1. Introduction

A decade ago, the National Assessment of Educational Progress (NAEP) Reading Report Card announced that California students ranked lowest in the nation in average Grade 4 reading proficiency (Office of Educational Research and Improvement [OERI], 1996). In response, California policy-makers redoubled their efforts to improve the state's schools. These efforts included a 27% increase in per-pupil spending over the next decade (Legislative Analyst's Office [LAO], 2001, 2004), the development of rigorous content standards, a revision of the state's assessment system to align with those standards, the creation of a strong accountability system, and a reduction in class size in the early elementary grades.

In addition to these broad efforts, in the late 1990s California policy-makers focused on increasing the number of qualified teachers—a need sparked by the dramatic increase in underprepared teachers that resulted from the class size reduction (CSR) initiative. In addition, the state launched initiatives to strengthen the quality of teacher preparation and professional development. Specifically, the state sought to:

- Increase the production of fully credentialed teachers by the California State University (CSU) system.
- Expand alternative routes into the teaching profession, such as the intern program.
- Launch an aggressive teacher recruitment campaign, especially in low-achieving schools.
- Expand the induction program to include all first- and second-year teachers.
- Design a new two-tier credentialing system to introduce higher standards for teacher preparation programs and to require teachers to complete an induction program to earn a Level II credential.
- Expand and add coherence to teachers' professional development, particularly in the areas of literacy and mathematics in the elementary grades.

Evidence suggests that these efforts began to pay off. The number of new credentialed teachers increased, growing from around 12,000 in the first half of the 1990s to more than 21,000 in the 2001-02 school year. And after years of increases, the number of underprepared (i.e., not fully credentialed) teachers finally began to decline in 2001-02. Most importantly, the number of students performing at a proficient or advanced level on California's Standardized Testing and Reporting (STAR) test, the state's measure of academic achievement, began to rise.

All of these indicators were good news for California. However, some of these achievements have proved to be short lived, with some positive trends reversing direction. In recent years, spending on teacher recruitment and the universities that prepare teachers has been cut sharply. The most recent data show declines in the number of credentialed teachers being produced and in the number enrolled in teacher preparation programs. And most disturbing, the latest STAR test results indicate slowed progress toward the state's goal of academic proficiency for all students. These recent setbacks do not bode well for the state, especially considering its current and future challenges to staff its classrooms with fully qualified teachers. Current teacher shortages in many subjects, an impending wave of

retirement among baby-boomer teachers, and a projected increase in secondary enrollment all point to a recurrence of staffing problems in the future.

It is clear that California cannot divert its attention from the need for effective teachers at this time. Nonetheless, any efforts to strengthen the teacher workforce will need to consider the current policy climate, including: a beleaguered state budget, state and federal legislation that creates increased accountability for schools and students, an intensified focus on teacher quality, the impact of the recently settled *Williams v. California* lawsuit, and the recent legislative attempt to consolidate the state's many categorical programs. Each will provide the state with both challenges and opportunities.

The Teacher Quality Policy Context

Budget Cuts and the Higher Education Compact

Early in this decade, California's economy took a downward turn, and state revenues followed. Faced with drastic shortfalls in the budget, California policy-makers were forced to make severe cuts in state spending, including many teacher-related initiatives. Although California's revenues are now increasing somewhat, in coming years the state will need to pay back the money it has borrowed to cover recent and current shortfalls. The outlook is grim: California will face severe budget problems for years to come.

The budget crisis has disrupted the development of what has been described as "California's teacher development pipeline," a system for recruiting, preparing, inducting, and building the content knowledge and skills of teachers. In 2003-04, state spending on teacher recruitment, for example, was cut drastically. Many of the efforts that were developed in the late 1990s as a response to the teacher shortage were eliminated, including the Teaching as a Priority block grants (TAP), the Teacher Recruitment Incentive Program (TRIP) and its six regional recruitment centers, the California Center for Teaching Careers (CalTeach), the Governor's Teaching Fellowship program, and the Cal Grant T program. Combined, these programs had a total of more than $150 million in funding 4 years ago; today, funding for all of these programs has been eliminated.

In 2004, higher education funding was cut as part of the "Higher Education Compact" agreed to by the Governor and the University of California (UC) and CSU systems. In exchange for short-term budget cuts, the compact guaranteed future funding stability. As part of the compact, CSU agreed to increase student fees, including an increase of 20% for teacher credential candidates for 2004-05, with additional increases of at least 10% in both 2005-06 and 2006-07. In addition, the UC and CSU systems agreed to collaborate on a major initiative to improve the supply and quality of math and science teachers in the state. Although the legislature ultimately restored about $40 million of the funding lost in the Higher Education Compact, CSU still suffered a net loss of $157 million in unfunded costs and General Fund reductions (CSU, 2004b).

Teacher professional development has also been hit hard by the state's budget crisis. One major state program, the California Professional Development Institutes (CPDI), has been eliminated. Other programs—including the California Subject Matter Projects (CSMP) and Peer Assistance and Review (PAR)—have seen their budgets reduced to a fraction of what they once were. A total of more than $150 million has been cut from several major programs over the last 4 years.

Of course, some teacher programs have remained intact. The Beginning Teacher Support and Assessment (BTSA) program, for example, has maintained fairly consistent funding throughout the budget crisis. So too has the Instructional Time and Staff Development Reform (ITSDR) program. In addition, the state has benefited from increased federal funds, which support teacher professional development programs like Reading First and the Teacher and Principal Training and Recruiting Fund, as well as some money for the CSMP. Nevertheless, the funding reductions have severely compromised the teacher development system—a situation that threatens to jeopardize the state's progress toward ensuring that every child has a fully qualified and effective teacher.

Increased Accountability for Schools and Students

The 2001 reauthorization of the Elementary and Secondary Education Act, known as the No Child Left Behind Act (NCLB), instituted new accountability measures for schools and states. Each year a certain portion of students at each school must score at the "proficient" level or above on the state test:

- For the first 3 years of NCLB, 2001-02 to 2003-04, the goal for elementary and middle schools is 16% proficiency in mathematics and 14% in reading.
- From 2004-05 to 2006-07, the goal for elementary and middle schools is 27% proficiency in mathematics and 24% in reading.
- From 2007-08 until 2013-14, the goals in both mathematics and reading increase annually by about 11% until reaching 100%.

Schools must meet these targets for their overall student population, as well as for ethnic minorities, economically disadvantaged students, and disabled students.

At the same time, the California High School Exit Examination (CAHSEE), which was introduced by legislation in 1999, is raising accountability for students. Beginning with the class of 2006, all high school students must pass this examination to receive a diploma. Approximately two-thirds of the class of 2006 have passed both the mathematics and English portions of the test thus far, and the remaining students will have future opportunities to do so (Wise et al., 2004). State education leaders are optimistic that most high school students will ultimately pass the examination and graduate from high school. However, for those 35% who have yet to complete this graduation requirement, access to skilled teachers will be essential.

The state also passed legislation in 2000 that required students, beginning with the Class of 2004, to pass algebra I to earn a high school diploma. Moreover, the mathematics portion of CAHSEE addresses the state content standards in algebra I. And although mastery of algebra is required before leaving high school, the state expects that instruction in algebra will occur much sooner—in the eighth grade. This expectation is meant to ensure that all students will have the opportunity to take higher level mathematics and science courses to meet the admissions requirements for California's state universities and universities around the country.[1] More eighth graders are taking algebra I today than in past years, with 32% of eighth

[1] CSU and UC minimum admissions requirements include 3 years of mathematics (algebra I, geometry, and algebra II), 2 years of science (1 biological science, 1 physical science), 4 years of English, and 2 years of social science.

graders taking the California Standards Test (CST) in algebra I in 2003, compared with 16% in 1999 (EdSource, 2004).

Together, these measures are increasing the pressure on California schools and students to achieve academically. The measures' short timelines for implementation create an urgent need for highly trained teachers, particularly in those schools where many students are not meeting achievement goals. Furthermore, it is critical that teachers be well trained to help their English language learner (ELL) and special education students. These students, who are not exempt from the federal and state accountability measures, will need extra help from highly trained teachers to succeed on the new high-stakes assessments they face.

Increased Focus on Teacher Quality

NCLB has brought the issue of teacher certification to the forefront of state and local education policy. In addition to raising targets for student performance, the law requires that all core subject teachers be "highly qualified" by 2005-06. In California, a "highly qualified" teacher (i.e., a NCLB-compliant one) is defined as one who has a bachelor's degree, has a credential or is working toward one in an alternative certification program (e.g., an intern program), and has demonstrated competence in each assigned subject area.

At the local level, many districts are responding to NCLB by encouraging uncredentialed teachers who are not NCLB-compliant to demonstrate subject matter competency and enroll in an intern program. Districts must also demonstrate that their veteran multiple-subject teachers are subject-matter competent under NCLB's new rules, which will be accomplished via the High Objective Uniform State Standard of Evaluation (HOUSSE) process, developed by the state.

The state has responded to NCLB by taking steps to phase out emergency permits that authorize teachers who have not demonstrated subject matter competency. Another policy change resulting from NCLB is the requirement that all new multiple-subject credential candidates must pass the California Subject Examination for Teachers: Multiple Subjects (CSET) before taking responsibility for whole-class instruction as a student teacher or as the teacher of record. This requirement departs from previous California policy that allowed multiple-subject teachers to demonstrate subject-matter competency by taking approved coursework.

The implementation of NCLB's teacher quality measures represents a significant challenge for the state. As of 2004, tens of thousands of working teachers still were not considered highly qualified under the state's definition. Some merely need to complete HOUSSE paperwork to verify their qualifications, but that will create a substantial administrative burden for districts; others need to enroll in an intern program, which may require increased state funding. Both will be difficult in a time of heightened expectations and reduced resources.

Williams v. California

This high-profile court case and the resulting settlement in 2004 highlighted the inequitable distribution of resources to California's students and schools. The plaintiffs in the case cited three areas in which resources were allocated unfairly: school facilities, textbooks, and teachers. As a result of the settlement, California passed several pieces of legislation to

address these issues. In the area of teacher quality—the area least addressed by the legislation—the state agreed to:

- Meet the NCLB requirement that all core teachers be highly qualified by 2006.
- Require county superintendents to increase monitoring of teacher quality and misassignments (including whether teachers who have 20% or more ELLs in their classes have proper training to teach second language learners), and address hiring and retention practices.
- Empower fiscal crisis and management assistance teams to assist districts that fall short of teacher quality goals.
- Streamline procedures for credentialing teachers prepared in other states (including waiving the California Basic Educational Skills Test (CBEST) and fifth-year program, if the applicant has completed comparable training in another state).
- Require that the Principal Training Program include training on monitoring and addressing teacher quality.

The list above represents only limited changes in teacher development policy, and it is unclear that these measures will lead to the strengthening of the teacher workforce in the state's lowest performing schools. The situation remains problematic for California: Although the settlement has ended legal proceedings in the short term, the plaintiffs may return to court if the inequities cited in the original complaint persist.

Consolidation of Categorical Programs

Over the past several years, policy-makers in Sacramento have been debating the best way to provide a semblance of order to the state's multimillion dollar assortment of 120 categorical education programs. Enacted at various points over the last several decades, each categorical program is designed to remedy a specific educational problem or provide services to particular groups of students or teachers. Critics have cited outdated funding formulas and insufficient accountability measures, among other issues, as reasons to reform the structure of the programs. After considerable debate in the Assembly and the Senate over competing versions of legislation, the Governor this year signed into law AB 825 (Firebaugh), combining 22 of the initiatives into the following 6 block grant programs: a Pupil Retention Block Grant, a School Safety Consolidated Competitive Grant, a Teacher Credentialing Block Grant, a Professional Development Block Grant, a new Targeted Instructional Improvement Block Grant, and a School Library Improvement Block Grant. Although the new arrangement will allow districts more flexibility for spending money on teacher quality issues, it is not clear how this change (given that it covers fewer than a quarter of all categorical programs and has no evaluation requirements) will affect teacher development in California.

In summary, the evolving policy context presents several challenges to California. The state's budget problems are massive and unresolved, with little relief in sight, and schools and students are being held to ever higher standards of achievement, with short timelines for demonstrating improvement. Given these requirements, coupled with those for teacher quality under NCLB and public scrutiny resulting from *Williams v. California*, the state will need to address teacher quality with renewed vigor.

Although daunting, these challenges present California policy-makers with opportunities for focusing on the most significant problems and for supporting the most effective solutions. Rather than allowing conditions to worsen again, California can build on the successes of the past several years. In this report, we provide policy-makers with information that they can use to make timely and effective decisions.

Teaching and California's Future

For the past 8 years, the Teaching and California's Future initiative (TCF) has provided California policy-makers with information needed to make sound decisions regarding the teacher workforce. TCF is an independent initiative that is driven by five central goals:

1. Every student will have a fully prepared and effective teacher.
2. Every district will be able to attract and retain fully qualified, effective teachers.
3. Every teacher will work in a safe, clean facility conducive to learning; have adequate materials with which to teach; and have the guidance and support of a capable leader.
4. Every pathway into teaching will provide high-quality preparation and be based on California's standards for what students should know and be able to do.
5. Every teacher will receive high-quality support as he or she begins teaching, as well as the continuing professional development to ensure that he or she stays current in his or her field.

To assist policy-makers in progressing toward these goals, the TCF initiative each year publishes detailed data on the teacher workforce and labor market, and on changes to policies and programs in teacher preparation, induction, and professional development. Every second year, the initiative collects original data on teachers and presents these data in an extended report. (The next extended report will be published in December 2005.)

Key Report Findings

This report, which compiles secondary data from various state agencies and analyzes these data, consists of chapters on Teacher Supply and Demand, Teacher Preparation and Recruitment, and Teacher Induction and Professional Development. Key findings follow:

- The state's teaching force is aging, and an impending bulge in teacher retirement is likely to create significant new demand for teachers. Our projections indicate that the gap between teacher supply and demand will peak in 2012-13 at around 52,000 teachers. Even including interns in the supply of teachers, the gap will still be 38,000.
- Under NCLB, California has defined "highly qualified" teachers to include intern credentials. Since the passage of NCLB, the number of intern credentials has increased, and the number of emergency permits has decreased. But not all trends have been positive: The production of preliminary credentials has declined, as has enrollment in regular (nonintern) preparation programs.
- Special education and many secondary education subjects continue to be plagued by shortages of fully credentialed teachers. In addition, many fully credentialed high school teachers are teaching "out of field" in a subject area they are not authorized to teach.
- Underprepared teachers are found in disproportionate numbers in low-performing schools and in schools serving large numbers of minority students, poor students, and/or ELLs.
- The state's budget crisis has led to major cuts in recruitment, fee increases for teacher credential candidates in the CSU system, and a lack of funding to implement the Teacher Performance Assessment (TPA), a key component of the state's plan to address the quality of teacher preparation.
- Several major professional development programs have had funding reduced over the past few years, although no further cuts occurred this year.
- California's induction system needs refinement. The BTSA program is unavailable to underprepared teachers during their initial years in the profession. By the time they receive a credential and become eligible, the support is often no longer relevant to their professional needs.
- Curriculum-based professional development programs have offered a more coherent and uniform instructional approach for teachers, but these efforts have mainly targeted literacy and mathematics, with a focus on elementary school teachers.
- In light of the expected increase in the number of middle and high school students, as well as the state's adoption of CAHSEE as a graduation requirement, professional development programs and spending are not sufficiently aligned with the training needs of secondary teachers.

Chapter 2. Teacher Supply and Demand

Supply and Demand

- An impending bulge in teacher retirement is likely to create significant new demand for teachers. California is estimated to need to replace nearly 60,000 teachers in the next 5 years, and more than 100,000 teachers in the next 10 years.
- Teacher supply recently declined, largely because of a drop in credential production in the independent sector and slowing growth in credential production in the CSU system. Lower enrollment in CSU credential programs in 2003-04 suggests that the supply of teachers may continue to be inadequate.
- The gap between teacher supply and demand is expected to widen in future years, peaking in 2012-13 at a shortage of about 52,000 teachers. Even if interns are included in the supply of teachers, the gap will remain at 38,000.

Underprepared and Out-of-Field Teachers

- The number of underprepared teachers—including those with intern credentials, emergency permits, pre-intern certificates, and waivers—fell in 2003-04 to 28,000, or 9% of the teacher workforce. That number compares with 42,500, or 14%, of the workforce just 3 years earlier. Among underprepared teachers, more are teaching on intern credentials and fewer on emergency permits.
- Special education continues to face a major shortage of fully credentialed teachers. In 2003-04, 16% of special education teachers were underprepared.
- The number of fully credentialed teachers with the appropriate subject matter knowledge is insufficient to teach the growing numbers of secondary students. In 2003-04, approximately 20% of high school English, mathematics, social science, and life science teachers, as well as 32% of physical science teachers, were either underprepared or teaching out of field.

Distribution of Underprepared Teachers

- Underprepared teachers are still inequitably distributed across schools. In 2003-04, more than half of public K-12 schools in the state had 5% or fewer underprepared faculty, but 12%, or 944 schools, had 20% or more underprepared teachers.
- Underprepared teachers are found in disproportionate numbers in low-performing schools and in schools serving large numbers of minority students, poor students, and/or ELLs. Students in these schools are up to five times as likely as those in the highest performing schools to be taught by underprepared teachers.
- In schools with the lowest passing rates on CAHSEE, an average of 1 in 5 teachers is underprepared, compared with 1 in 10 in schools with the highest passing rates.

For years, schools and districts have struggled to meet the demand for classroom teachers; in the late 1990s, they increasingly began to rely on teachers who had not completed a teacher preparation program and lacked full credentials. Today, the number of underprepared teachers has been significantly reduced statewide, probably because of a combination of a weak economy, NCLB requirements, and state policies that support teacher development. However, underprepared teachers remain concentrated in schools serving our poorest and lowest achieving students and in schools serving large numbers of minority students and ELLs. These underprepared teachers are also disproportionately found in areas with a shortage of teachers like special education and several secondary subjects including English, mathematics, and science.

Looking ahead, it does not appear that these problems will be solved. If anything, they will become worse. As a large proportion of the teacher workforce reaches retirement age, the state is likely to face major challenges in staffing every classroom with a fully prepared teacher. In the near term, as high school enrollments climb, it may be especially problematic to staff all secondary classrooms with teachers who have the appropriate subject matter knowledge. Doing so will be critically important, however, now that all California students, including special education students and ELLs, are expected to meet higher standards that ever before, including passing algebra I and CAHSEE to earn a high school diploma.

This chapter examines in detail the supply and demand of fully credentialed teachers in California. We first describe the major sources that contribute to the supply of those teachers. We then discuss the major factors that drive the demand for teachers. Then, using estimates based on available data, we project the future gap between teacher supply and demand, which has traditionally been filled by hiring underprepared teachers. Next, we discuss historical trends in the hiring of underprepared teachers and their current inequitable distribution across schools in this state. Finally, we discuss specific subject areas that face the greatest shortages of teachers.

The Supply of Teachers in California

California faces a formidable task in staffing its classrooms, beginning with the sheer number of teachers required. Together, California public schools employ more than 300,000 teachers each year; the Los Angeles Unified School District (LAUSD) alone employs more than 30,000. Each year the majority of teachers return to their positions and remain in the workforce. However, understanding who fills the positions that become available when teachers quit or retire is important. Three categories of teachers enter the California workforce each year to fill open positions: new teachers entering the profession for the first time, teachers who are re-entering the workforce after leaving the profession for a time, and out-of-state teachers new to California. Each of these groups is factored into our projections of the future supply of teachers later in the chapter.

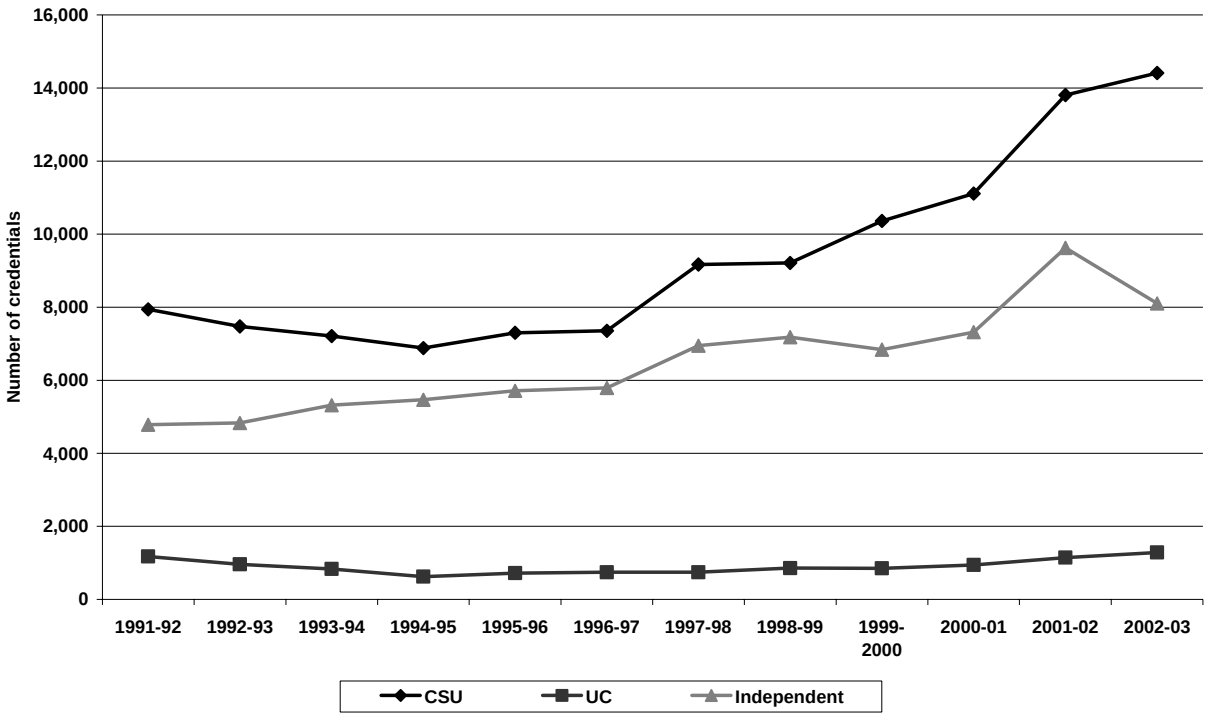
New Teachers Entering the Profession

The number of newly credentialed teachers prepared by California institutions of higher education (IHEs) increased over the last decade, particularly during the period that class size reduction was implemented. But in 2002-03, for the first time in 6 years, the number of teachers newly credentialed in the state declined. In 2002-03, 23,800 new preliminary,

professional clear, and intern credentials were recommended by IHEs, down from 24,500 the previous year.

The state's biggest producer of preliminary credentials and interns is the CSU system. Like the state as a whole, CSU increased its production of new teachers in the second half of the 1990s, largely by expanding alternative certification routes (described in more detail in Chapter 3). In 9 years, from 1994-95 to 2002-03, CSU more than doubled its production of new teachers (see Exhibit 1). During that time, the annual growth rate was somewhat erratic, ranging from less than 1% to as high as 25% in different years. In 2002-03, the most recent year for which data are available, teacher production grew by 4%, considerably slower than the previous year's growth of 24%. In fact, the number of credentials produced by CSU may decline in coming years, given that the number of students enrolled in CSU preparation programs has fallen slightly. In 2003-04, CSU preparation programs enrolled about 28,950, down from about 30,500 the previous year (CSU, 2004a).

Exhibit 1
New Preliminary and Intern Credentials Issued, by Type of Institution, 1991-92 to 2002-03



Sources: California Commission on Teacher Credentialing (CTC) (1998a, 1999a, 2000, 2001a, 2001c, 2002a, 2003a, & 2004a); SRI analysis.
Note: See Appendix A for additional information.

As CSU increased its teacher production in the last decade, so too did independent universities. Although the numbers of teacher credentials climbed quickly at independent universities, they produced fewer teacher credentials overall than did CSU. In 2002-03, however, the independent sector saw a reversal in teacher production, dropping to about 8,000

after peaking at 9,600 the previous year. The biggest producer in the independent sector is National University, which experienced a 33% decline from 2001-02 to 2002-03 in the number of credentials produced. The second biggest independent producer, Chapman University, experienced a 22% decline (CTC, 2004a).

The UC system produces relatively few teachers in comparison with the CSU system and the independent sector. The UC system has seen slight increases for several years, reaching a 10-year high at nearly 1,300 in 2002-03.

It is too soon to tell whether or not the recent decline in the number of credentials produced will be a long-lasting trend. However, coupled with recent cuts to higher education and statewide recruitment efforts (discussed in Chapter 3), the recent reversal in credential production may be cause for concern. It will be important for the state to continue to monitor the number of new teachers produced by California institutions.

Of course, not everyone who earns a teaching credential in California ultimately takes a job as a teacher in the public school system. Although data on the number who do so are not readily available, our 2001 analysis linking data from CTC and the California State Teacher Retirement System (CalSTRS) estimated that approximately 81% of newly credentialed teachers entered the teacher workforce before or within 1 year of receiving a credential, and an additional 2% took a job within 1-2 years of earning their credential (see Appendix B for additional information).

Re-entrants to the Teacher Workforce

Some open teaching positions in any given year are filled by individuals who leave the profession early in their careers but choose to return. These teachers leave for any number of reasons, whether personal (to raise a family), professional (to pursue other career interests), or economic (to pursue more lucrative opportunities). Unfortunately, most state-level data files do not contain individual identifiers for teachers, making it difficult to accurately track teachers' movements in and out of the public school system. As a result, little is known about the size of the re-entrant pool in California or about their reasons for re-entry.

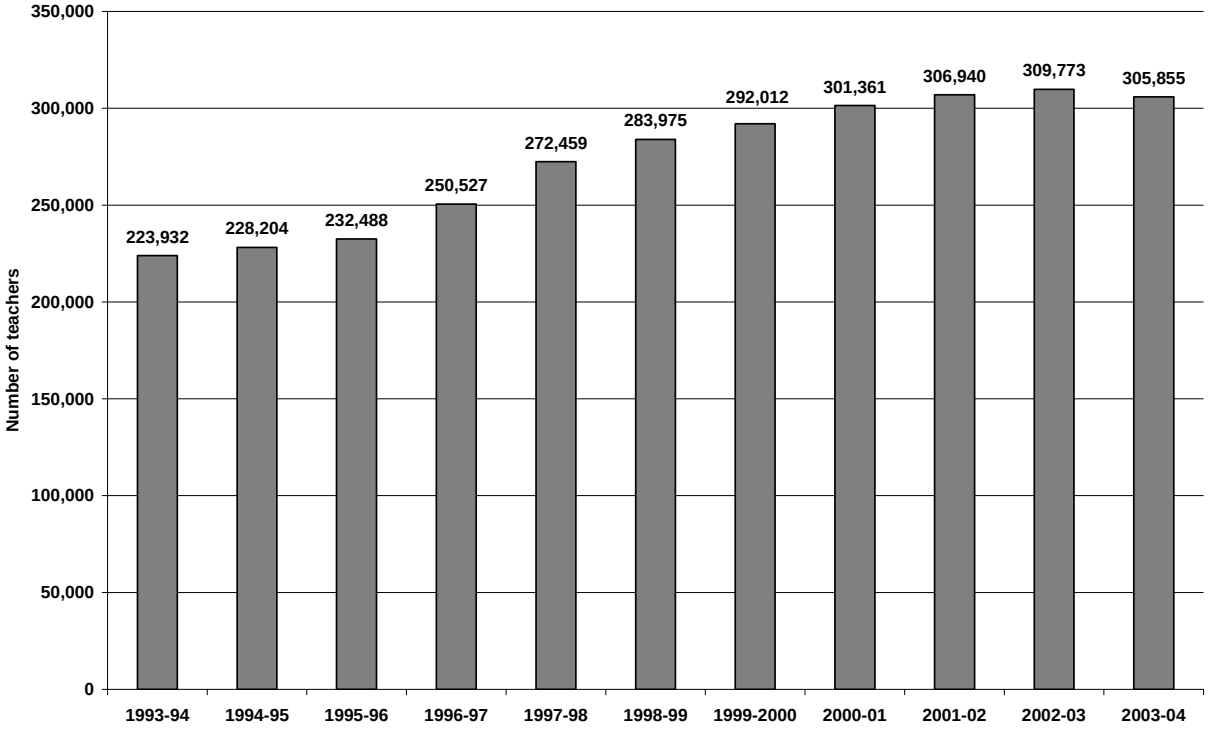
Credentialed Teachers Prepared in Other States

The teacher supply also includes teachers with full credentials who have been prepared in other states. In recent years California has enacted policies to lower barriers and make it easier for these teachers to enter the state's teaching workforce: AB 1620 (Scott), passed in 1998, requires the CTC to conduct periodic reviews of teacher preparation program standards in other states and to establish reciprocity agreements with those states that demonstrate teacher preparation standards comparable to California's. AB 877 (Scott) has further streamlined the requirements for out-of-state credentialed teachers to earn California credentials, as has more recent legislation (AB 3001, Goldberg) enacted as a result of the *Williams v. California* settlement. However, out-of-state teachers account for such a small portion of the supply of teachers that the impact of the *Williams* lawsuit and other legislation is likely to be limited. Over the last 5 years, the CTC has issued only 4,000 to 5,000 credentials each year to teachers prepared out of state; 4,900 credentials were issued to these teachers in 2002-03.

The Demand for Teachers and Shifting Student Enrollment: The Growing Need for Secondary Faculty

Key factors that drive demand for teachers include student enrollment and the number of teachers who leave the profession. A change in policy can also affect the demand for teachers, as it did in the 1990s when CSR was instituted in grades K-3. Between 1993-94 and 2002-03, the size of the teacher workforce expanded by more than a third, due to student enrollment growth, teacher attrition and retirement, and CSR implementation. However, this growth slowed in subsequent years as CSR reached full implementation and state budget cuts forced districts to curb the hiring of new teachers. Now, for the first time in many years, California's overall teacher workforce has declined. In 2003-04, the state had approximately 306,000 teachers—almost 4,000 fewer teachers than in the previous year and a decline of 1.3% (see Exhibit 2).

Exhibit 2
California K-12 Teacher Workforce, 1993-94 to 2003-04



Sources: California Department of Education (CDE), Educational Demographics Unit (1993a, 1994a, 1995a, 1996a, 1997a, 1998a, 1999a, 2000a, 2001a, 2002a, 2003a, & 2004a): SRI analysis.
Note: See Appendix A for additional information.

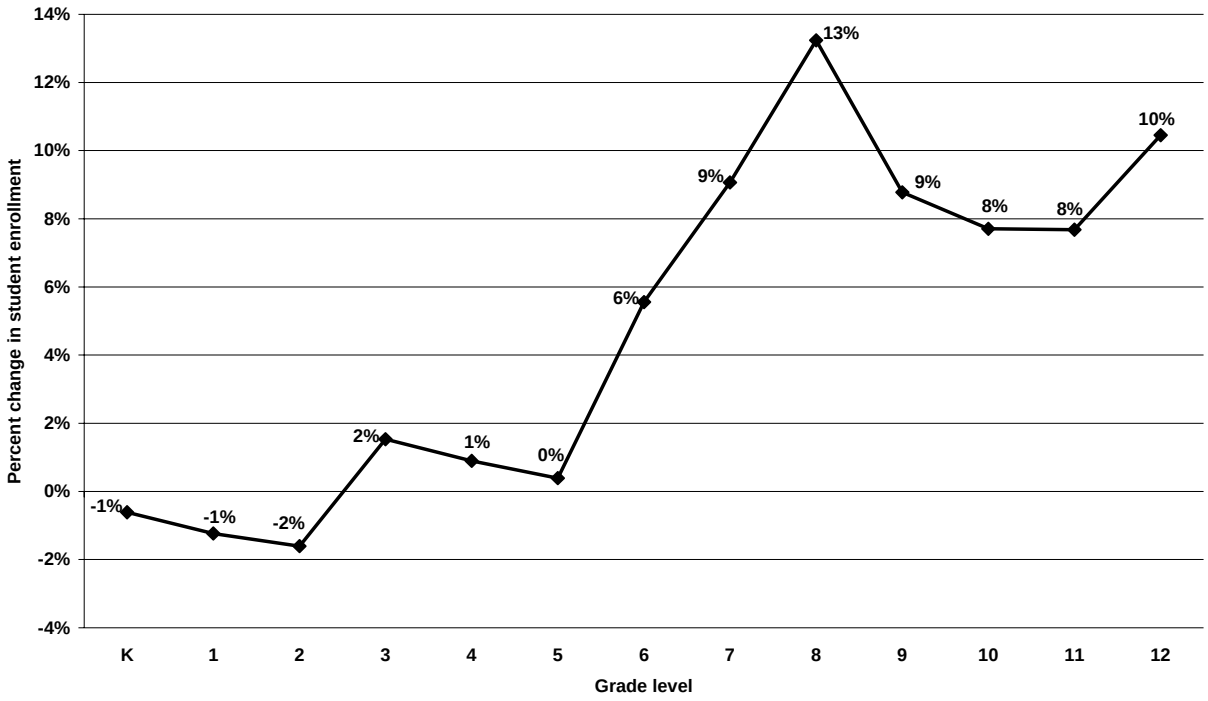
Despite the slight decline in the size of the teacher workforce, demand is likely to increase, especially at the high school level. First, student enrollment is projected to grow in the secondary grades, potentially exacerbating existing shortages in many high school subject areas such as science, mathematics, and English. Second, the teacher retirement rate is expected to increase as baby boomers continue to reach retirement age and leave the profession. In this section we examine these factors in greater detail.

Student Enrollment Growth

One major factor that affects the demand for teachers K-12 public schools is student enrollment. Public school enrollment grew rapidly in the 1990s as the state's population boomed. From 1994-95 to 2003-04, the number of students enrolled in California's public schools grew by nearly 960,000, or 18%, and now totals nearly 6.3 million. During that time, the number of ELLs grew from 1.3 to 1.6 million—a 27% increase. In 2003-04, total student enrollment increased by almost 55,000. The combination of a declining teacher workforce and growth in student enrollment increased the average class size statewide—from 26.2 students in 2002-03 to 27.4 in 2003-04.

Although overall student enrollment is expected to increase only gradually in the next few years, secondary school enrollment is expected to rise, continuing a trend of recent years. Between 2000-01 and 2003-04, student enrollment in grades 6 through 12 rose substantially, and grade 8 experienced student enrollment growth of 13%, more than any other grade level during that period (see Exhibit 3). At the same time, student enrollment in grades K-2 declined.

Exhibit 3
Percent Change in K-12 Public School Enrollment by Grade, 2000-01 to 2003-04

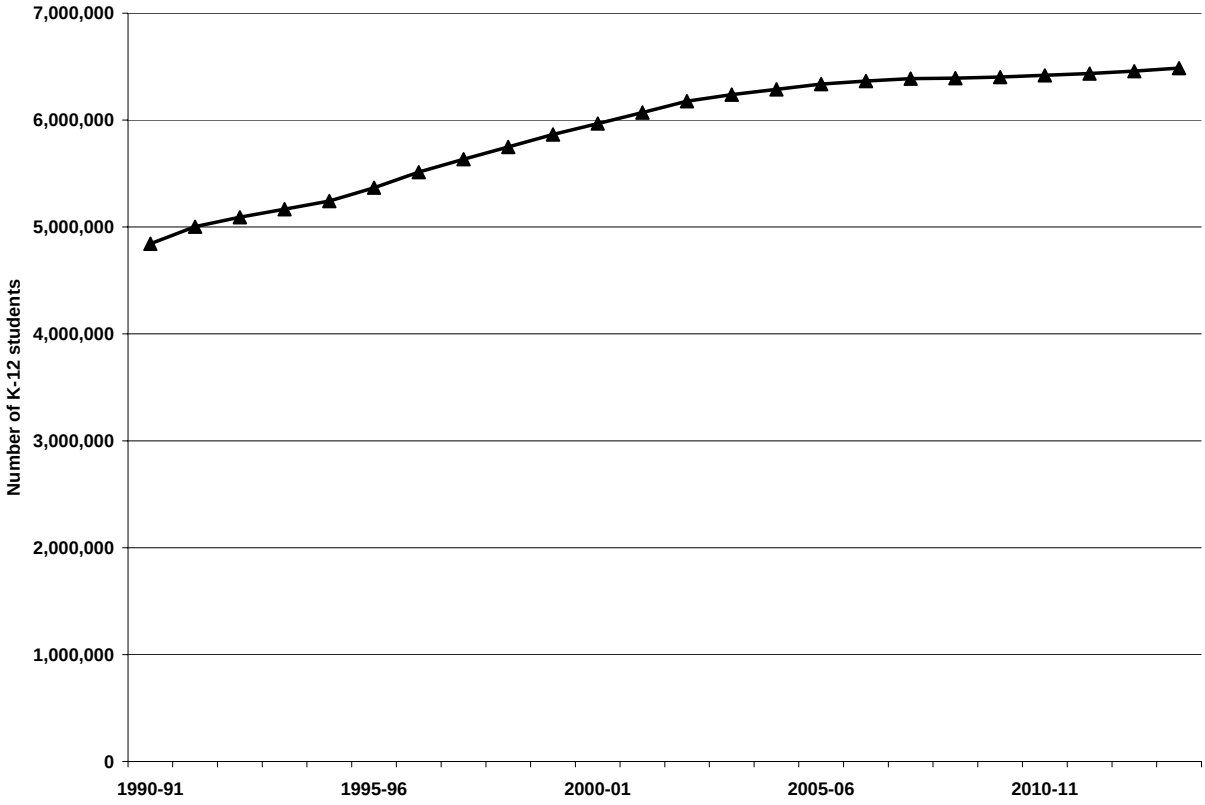


Source: CDE (2004g); SRI analysis.

Looking ahead, high school enrollments are projected to grow until the 2009-10 school year, increasing by about 17% from 2001-02 (California Department of Finance [CDOF], 2004a). At the elementary level (K-8), however, enrollment growth is projected to decline by 0.75% until 2007-08, before beginning to increase through 2013-14. Combining all grades,

student enrollment is projected to increase just slightly in the years to come. Total student enrollment is expected to peak in 2013-14 at 6.49 million students, an increase of 4% over the next 10 years (CDOF, 2004b) (see Exhibit 4).

Exhibit 4
Actual and Projected K-12 Public School Enrollment, 1990-91 to 2013-14



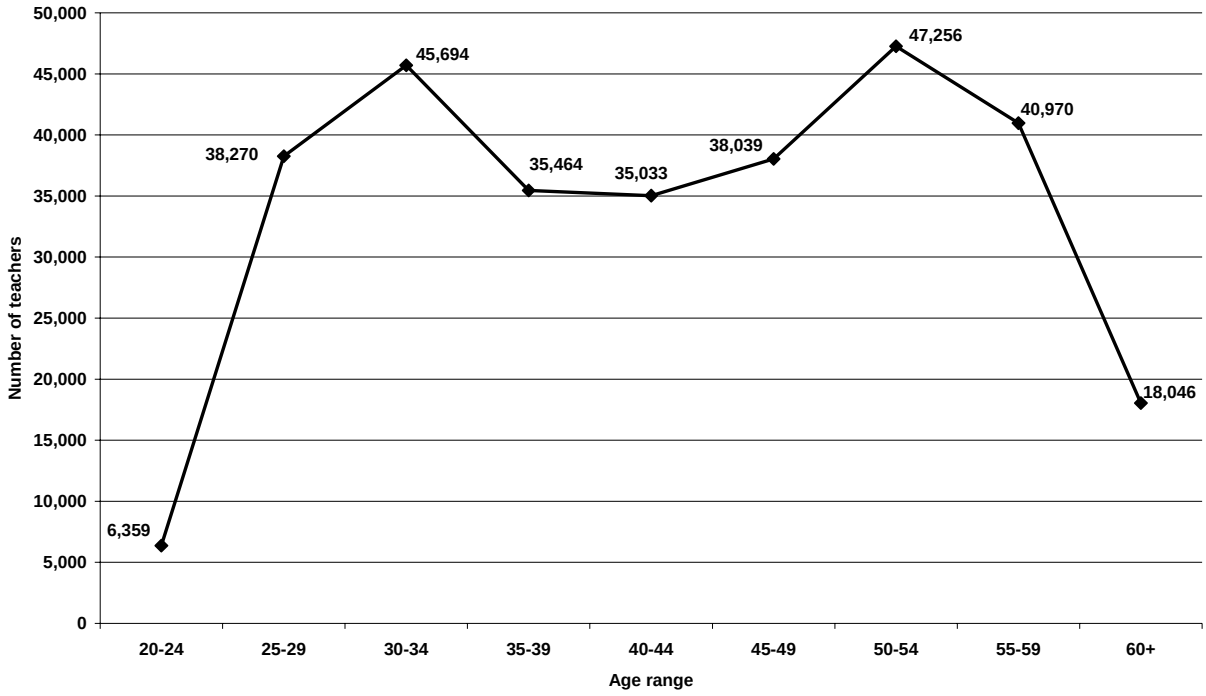
Source: CDOF (2004b).
Note: Data for 1990-91 to 2003-04 are actual numbers; data for 2004-05 to 2013-14 are projections.

Teacher Retirement and Attrition

Teacher retirement and attrition are expected to be key drivers of increased teacher demand in the near future. In 2003-04, California had nearly 60,000 teachers older than 55 and 106,000 teachers older than 50. If all these teachers leave the profession at the average teacher retirement age of 60, California would need to replace 60,000 teachers, or one-fifth of the state's current workforce, in just the next 5 years. Over the next 10 years, the state would need to replace 106,000 teachers, or one-third of the teacher workforce (see Exhibit 5).

The retirement rate is projected to grow steadily, peaking in 2007-08 at 5.4% of the total workforce—a substantial increase over today's estimated retirement rate of 1.8%. Thereafter, the retirement rate will begin to decline. By 2013-14, we estimate a retirement rate of 3.8% of the workforce, still more than double today's estimated rate (see Appendix B for details on method).

Exhibit 5
Age Distribution of K-12 Public School Teachers, 2003-04



Source: CTC (2004b).

In addition to retirement, the state loses teachers each year as a result of regular attrition from the profession. Although statewide data systems do not allow for precise analyses of teacher attrition, we estimate that annual attrition is approximately 4.6% of the workforce (see Appendix B for details on method).

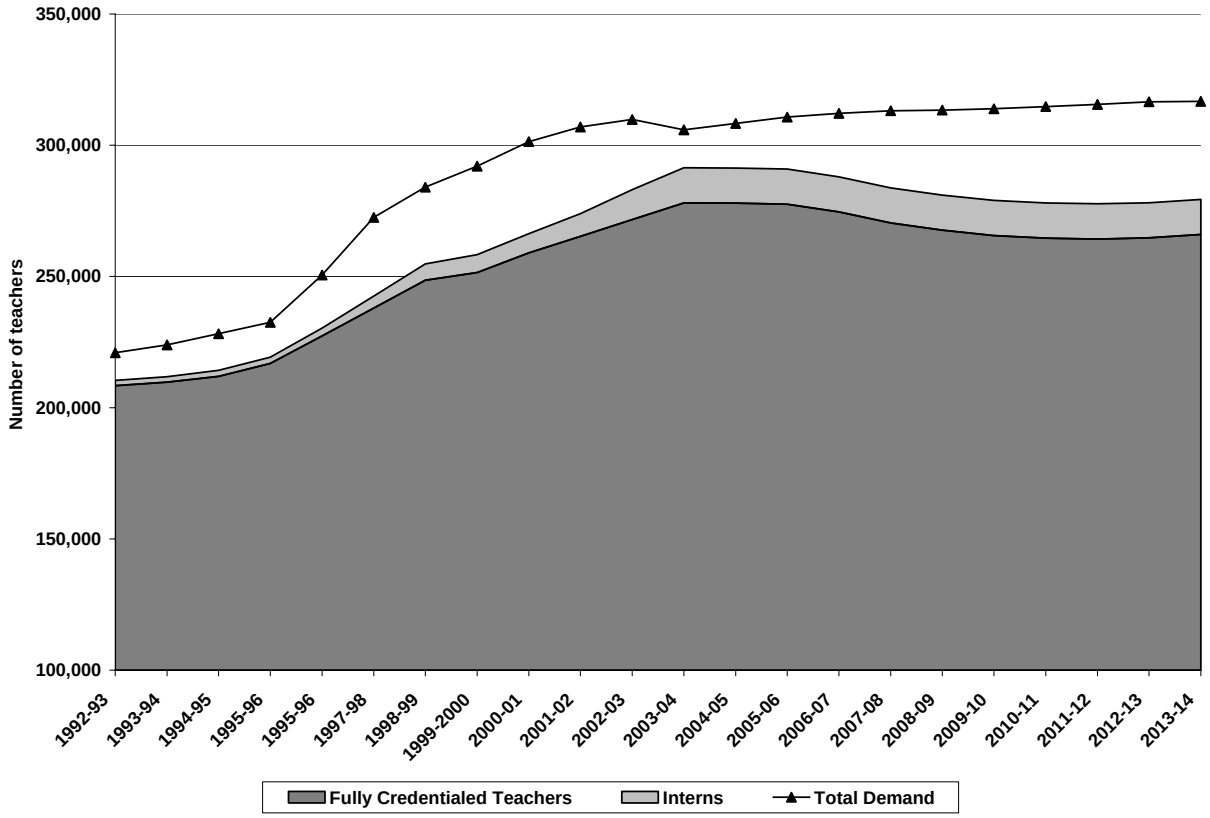
These demographic trends suggest a mixed prognosis. Relatively stable student enrollment at the elementary level, on its own, would maintain a relatively level demand for elementary teachers. However, given the pending retirement boom, we project an increased demand for teachers, as retirements create more than 100,000 vacancies in the next 10 years, 60,000 of those in the next 5 years. Combined with the growth in secondary enrollment over the next 5 years, the state potentially faces a crisis in staffing middle and high schools with fully credentialed teachers who have the appropriate subject matter knowledge in the courses they teach.

Putting Supply and Demand Together: Enough Teachers?

As teachers retire in large numbers over the next few years and student enrollment in the secondary grades continues to increase, will California have enough fully credentialed teachers to staff our classrooms? Here we project the demand for fully credentialed teachers, the supply of fully credentialed teachers, and the projected gap between these two numbers through 2013-14. Building on the sources of supply and drivers of demand described above, these projections take into account current levels of credential production, workforce participation, attrition, and an increasing rate of retirement based on the age distribution of the workforce.

Although the gap between teacher supply and demand has narrowed in recent years, it is projected to widen in the future (see Exhibit 6). This widening gap is partially caused by student enrollment growth, expected to peak in 2007-08, but more significantly by an increase in teacher retirements. At its worst, the gap between teacher supply and demand is estimated to reach 52,000 in 2012-13; in other words, the state would need to employ 52,000 underprepared teachers to staff California's classrooms, approximately 16% of the workforce in that year. Even if interns are counted in the supply of teachers, the gap is projected to number 38,000, or 12% of the workforce, all of whom would be out of compliance with NCLB credential requirements.

Exhibit 6
Projected K-12 Public School Teacher Workforce Through 2013-14



Sources: CTC (1998a, 1999a, 1999b, 2000a, 2001a, 2001c, 2002a, 2003a, 2003b, 2003c, & 2004a); CDE (1993a, 1993b, 1993c; 1994a, 1994b, 1994,, 1995a, 1995b,, 1996a, 1996b, 1997a, 1997b, 1998a, 1998b, 1998d, 1999a, 1999b, 1999d, 1999h, 2000a, 2000b, 2000e. 2001a, 2001b, 2001e, 2002a, 2002b, 2002e, 2003a, 2003b, 2003i & 2004a); CDOF (2004b), CalSTRS (2004b); SRI analysis.
Note: See Appendix B for additional information.

These projections of a future shortage of fully prepared teachers in California classrooms are estimates based on the best available data. The degree to which they prove accurate will depend on exogenous conditions, particularly changes in the availability of attractive jobs in the private sector, as well as future policies designed to strengthen the teacher workforce.

Traditionally, the gap between the supply and demand of fully credentialed teachers has been filled by underprepared teachers—those who have not met California's minimum

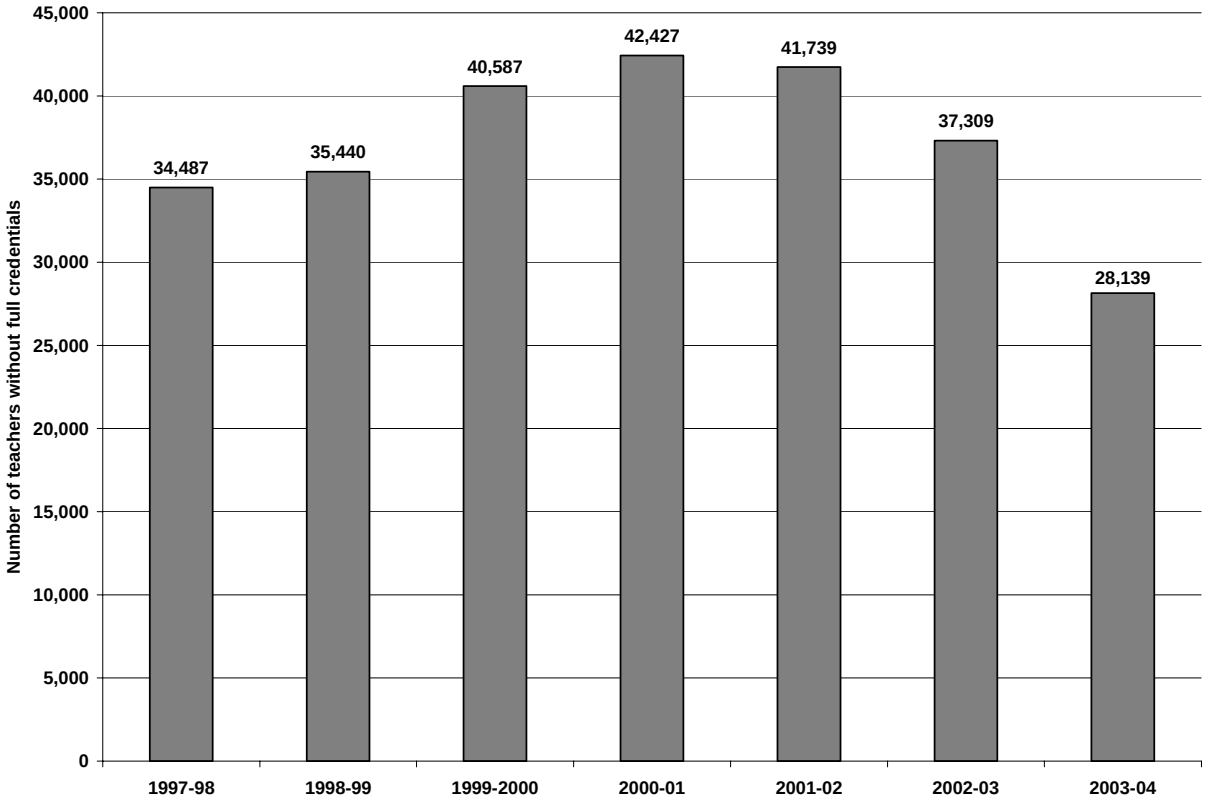
qualifications to teach. Next, we examine the issue of underprepared teachers in detail, paying particular attention to their recent decline in number and the way they are distributed among California's schools.

Underprepared Teachers: Fewer in Number but Still Maldistributed

The high demand for classroom teachers during the late 1990s resulted in the hiring of thousands of classroom teachers who had not completed a preparation program and did not hold full teaching credentials. This group of underprepared teachers included interns, pre-interns, and individuals with emergency permits or waivers.[2] After peaking in 2000-01 at about 42,500, or 14% of the workforce, the number and proportion of underprepared teachers in the teacher workforce began to decline. By 2003-04, the number of underprepared teachers dropped to about 28,000, or 9% of the teacher workforce (see Exhibit 7).

[2] We use the term underprepared to describe this group because they have not completed a teacher preparation program and do not hold a full credential for their teaching assignment. Although considerable national debate surrounds the value of whether or not a credential ensures teacher quality, we use the term literally to describe the status of these teachers relative to the state's minimum requirements for becoming a teacher. Thus, our standards for what constitutes a "fully credentialed" teacher differ from what California has deemed a "highly qualified" teacher under NCLB. California and the federal government consider interns—teachers who have demonstrated subject matter competency and are enrolled in an intern teacher preparation program while teaching—as "highly qualified." Because interns have not completed a teacher preparation program before becoming a teacher of record and do not hold a preliminary or professional clear credential, we continue to include these teachers in our underprepared numbers.

Exhibit 7
Number of Underprepared Teachers, 1997-98 to 2003-04

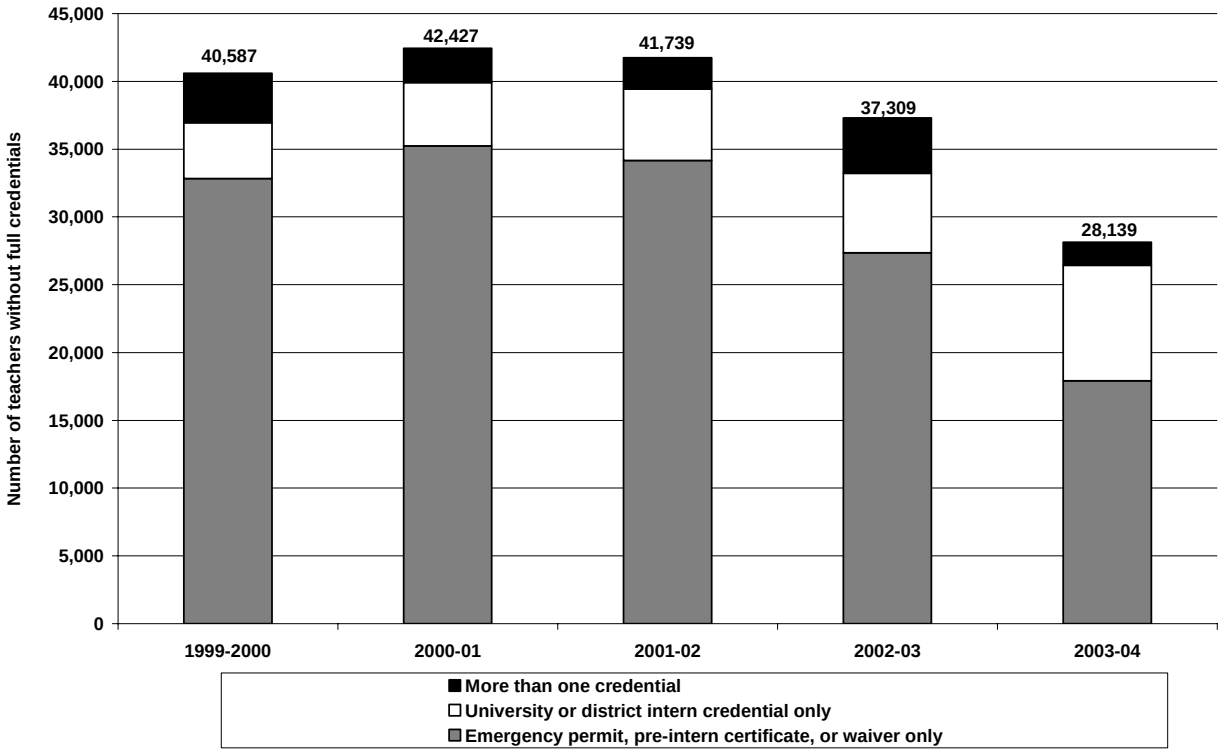


Sources: CDE (1998a, 1999a, 2000a, 2001a, 2002a, 2003a, & 2004a); SRI analysis.
Note: See Appendix A for additional information.

Among underprepared teachers, the percentage of interns has been growing, whereas the number of emergency permits, pre-intern certificates, and waivers has been declining (see Exhibit 8). Interns made up about 30% of all underprepared teachers in 2003-04, compared with 10% in 1999-2000. During the same period, the number of underprepared teachers with emergency permits, waivers, or pre-intern certificates declined from more than 81% to 64%.[3] This change, along with the overall decrease in underprepared teachers, is likely to have been influenced by a combination of factors, including the implementation of NCLB and state policy efforts in preparation and recruiting. (Chapter 3 discusses these factors in more detail.)

[3] In 1999-2000, an additional 9% of underprepared teachers reported holding more than one type of credential (e.g., an emergency permit and an intern credential), compared with 6% in 2003-04.

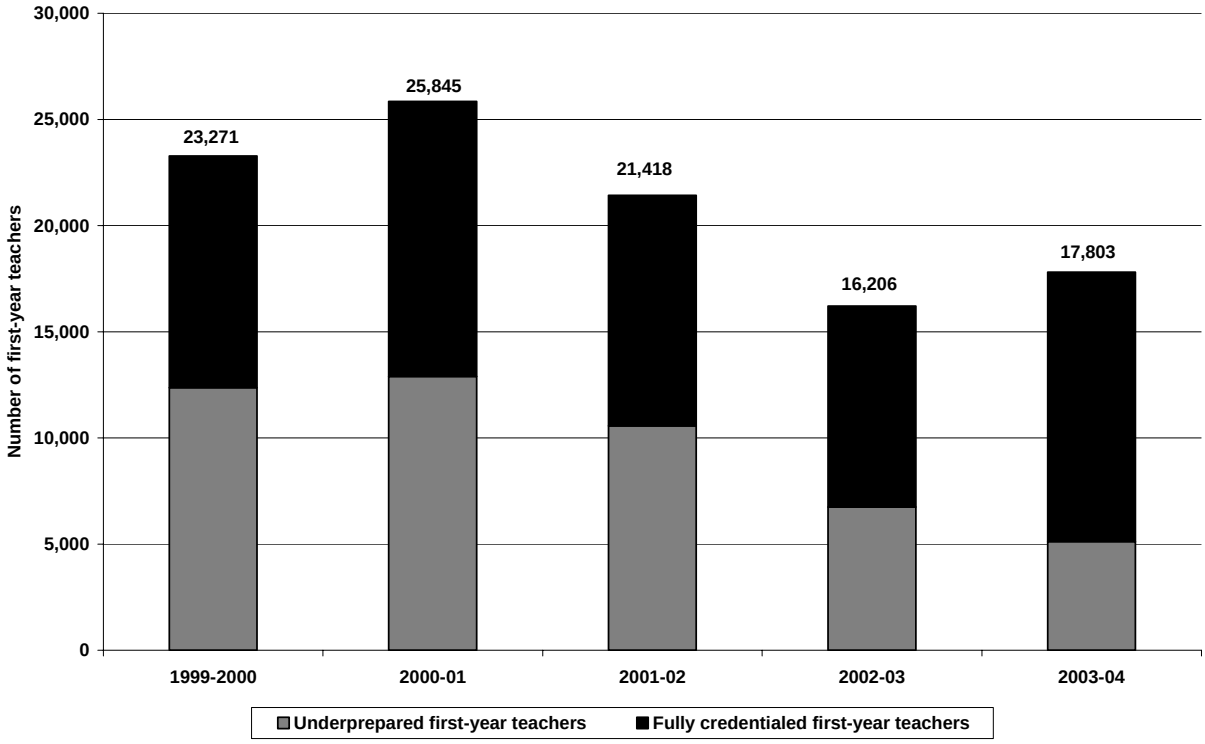
Exhibit 8
Number of Underprepared Teachers, by Credential Type, 1999-2000 to 2003-04



Sources: CDE (1998b, 1999b, 2000b, 2001b, 2002b, 2003b, & 2004b); SRI analysis.
Note: See Appendix A for additional information.

Another factor contributing to the decline in underprepared teachers and the changing composition of their credential status is the overall drop in new teacher hires, perhaps caused by the state's weak economy. When districts hire fewer teachers, they can be more selective and hire more fully credentialed and NCLB-compliant new teachers. In 2003-04, about 18,000 first-year teachers were hired, a slight increase over the previous year, but still considerably fewer than the approximately 26,000 new teachers hired in 2000-01 (see Exhibit 9). Among these first-year teachers, far fewer were underprepared than in previous years. Nearly 13,000 underprepared teachers were hired in 2000-01, but only 5,000 just 3 years later. In percentage terms, underprepared teachers made up 29% of first-year teachers in 2003-04, down from 42% in 2002-03, and more than 50% in the late 1990s and early 2000s. However, among special education teachers new to the profession, the percentage of underprepared teachers was far higher. In 2003-04, 54% of first- and second-year special education teachers were underprepared. This is an improvement over the previous year, when 62% were underprepared, but still represents far too many who fail to meet requirements for even a preliminary credential.

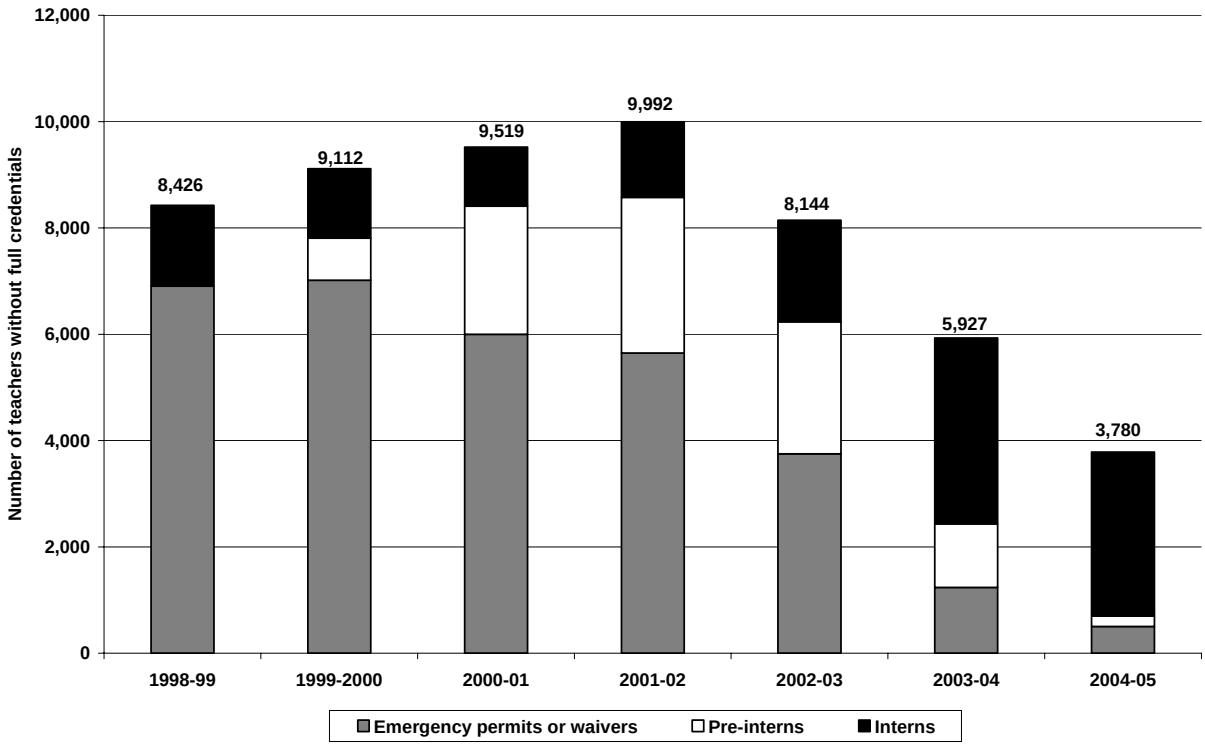
Exhibit 9
Number of First-Year Teachers, by Credential Status, 1999-2000 to 2003-04



Sources: CDE (1998b, 1999b, 2000b, 2001b, 2002b, 2003b, & 2004b); SRI analysis.
Note: Includes full-time teachers only.

Data from LAUSD for fall of the 2004-05 school year suggest that many of the trends described above are likely to continue. Specifically, the number of underprepared teachers are likely to continue to decline, along with the proportion of underprepared teachers who hold emergency permits and pre-intern certificates. Over the past 4 years, the number of underprepared teachers in LAUSD has decreased (see Exhibit 10). In the fall of 2004, LAUSD had 3,780 underprepared teachers, compared with nearly 10,000 in 2001-02. Of those underprepared teachers, a far greater proportion are interns than in previous years. In 2004, 82% of the underprepared teachers in LAUSD were interns, compared with just 14% in 2001-02.

Exhibit 10
Number of Underprepared Teachers in LAUSD, 1998-99 to 2004-05



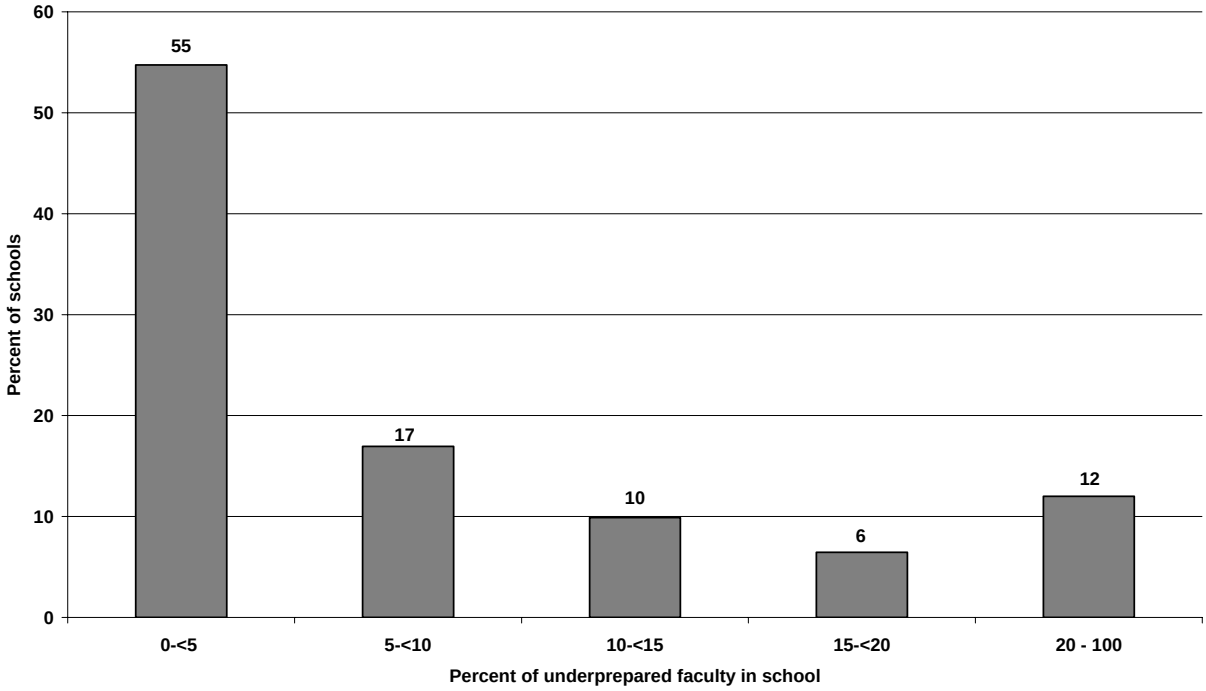
Sources: LAUSD (2003 & 2004).

Although the overall decline in underprepared teachers is promising, problems with the way these teachers are distributed throughout the state's schools persist. We turn to this issue next.

Continued Maldistribution of Underprepared Teachers

Underprepared teachers are not distributed evenly throughout the state, instead being concentrated in certain schools. More than half of public K-12 schools in the state have 5% or fewer underprepared faculty, but 12%, or 944 schools, have 20% or more underprepared teachers (see Exhibit 11). Although schools may be able to absorb the impact of a few underprepared teachers easily, a concentration of 20% or more may overwhelm administrators. In an era when schools are responsible for the achievement of every student, schools can hardly afford to have one in five teachers who lack even basic training in pedagogy. Although the number of schools with high concentrations of underprepared teachers has lessened somewhat in recent years, there are still far too many.

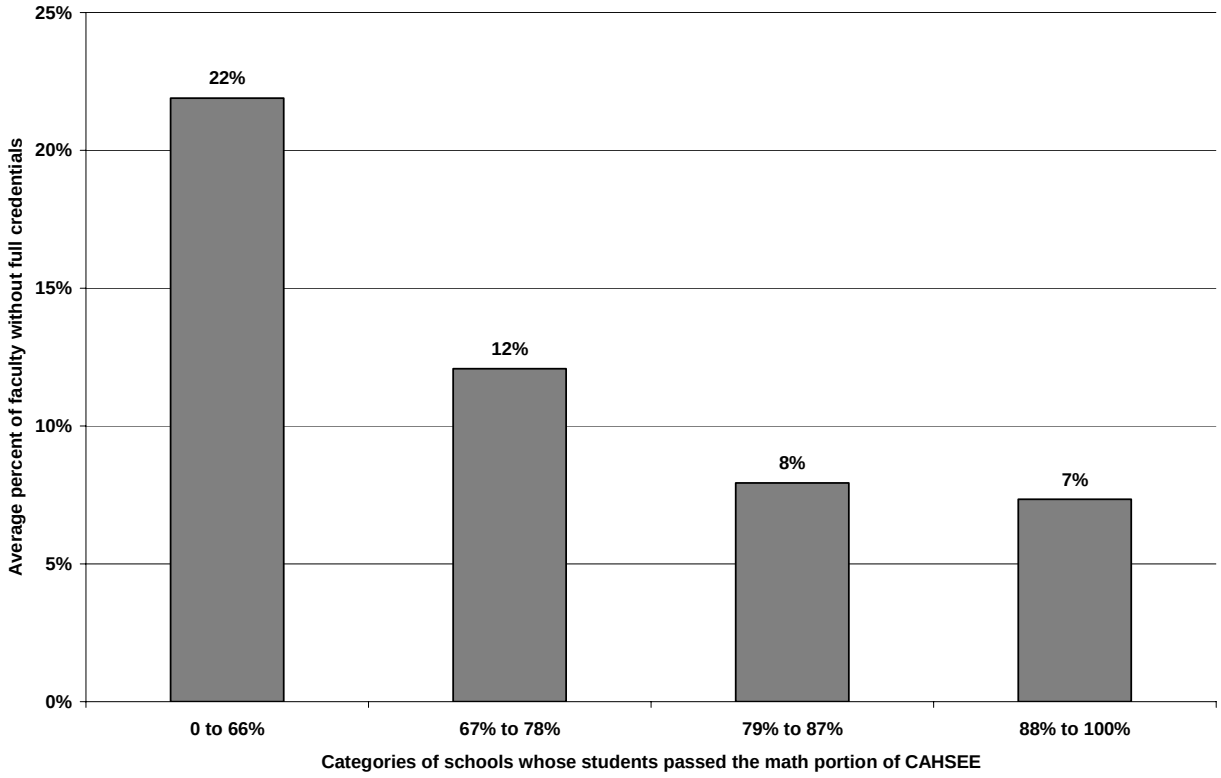
Exhibit 11
Distribution of Schools, by School-Level Percentage of Underprepared Faculty, 2003-04



Sources: CDE (2004c & 2004d); SRI analysis.
Note: See Appendix A for additional information.

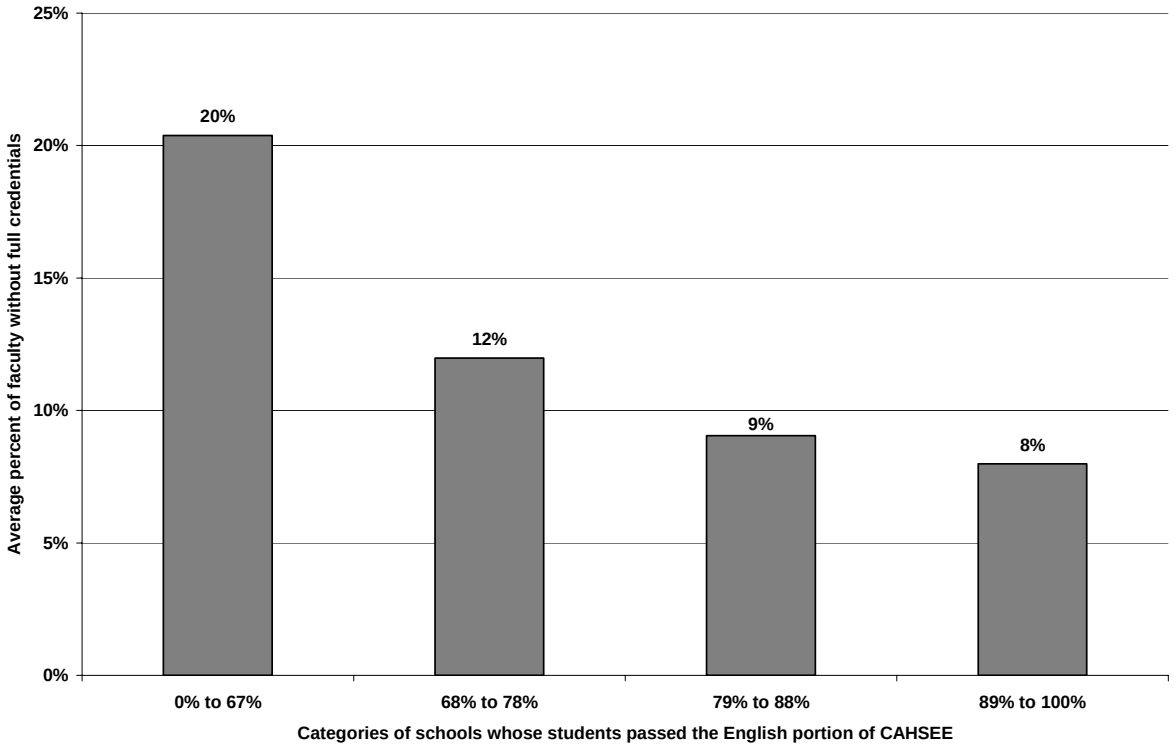
The schools that most often bear the burden of high proportions of underprepared teachers are those that are low-performing and most in need of highly skilled educators. For instance, schools with the lowest passing rates on CAHSEE have, on average, far more underprepared teachers. In fact, students in these schools are three times as likely to be taught by underprepared teachers as are students in schools with the highest passing rates (see Exhibits 12 and 13). On average, more than 20% of teachers were underprepared in schools where fewer than two-thirds of the students passed the mathematics and English portions of CAHSEE. Although these schools are the ones most in need of well-trained, effective teachers, the data suggest that their teachers as a whole are the least well-prepared. In an era of high stakes and high standards, this pattern makes for obvious educational inequities.

Exhibit 12
Underprepared Teachers by School-Level Percentage of 10th-Grade Students Passing the Mathematics Portion of CAHSEE, 2003-04



Source: CDE (2004e); SRI analysis.
Note: See Appendix A for additional information.

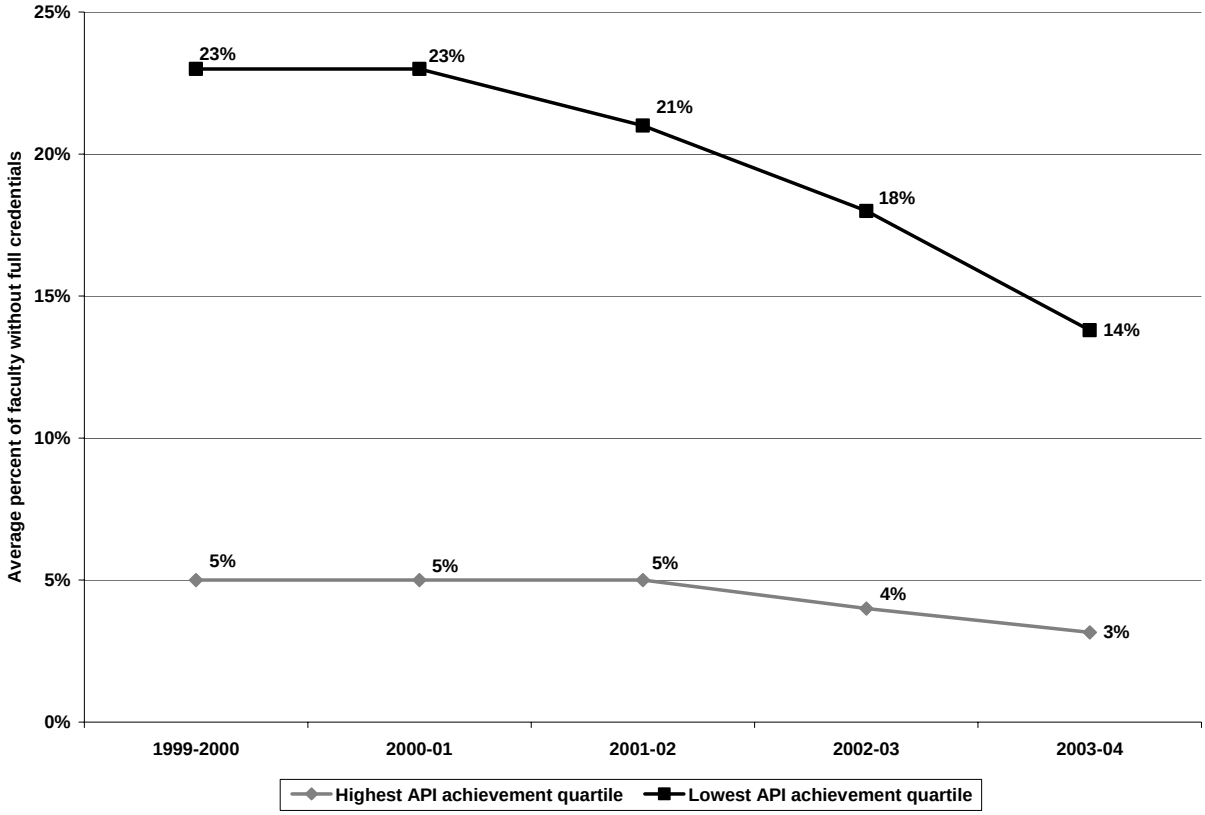
Exhibit 13
Underprepared Teachers by School-Level Percentage of 10th-Grade Students Passing the English Language Portion of CAHSEE, 2003-04



Source: CDE (2004e); SRI analysis.
Note: See Appendix A for additional information.

This equity gap between low- and high-performing schools is also reflected in the distribution of underprepared teachers as revealed by school Academic Performance Index (API) scores.[4] In schools that fell in the lowest achievement quartile on the state's API in 2003-04, an average of 14% of teachers were underprepared, compared with an average of 3% in the highest performing schools. Although this gap has lessened recently, nearly a five-fold difference persists (see Exhibit 14).

Exhibit 14
Underprepared Teachers in Schools in the Highest and Lowest API Achievement Quartiles, 1999-2000 to 2003-04

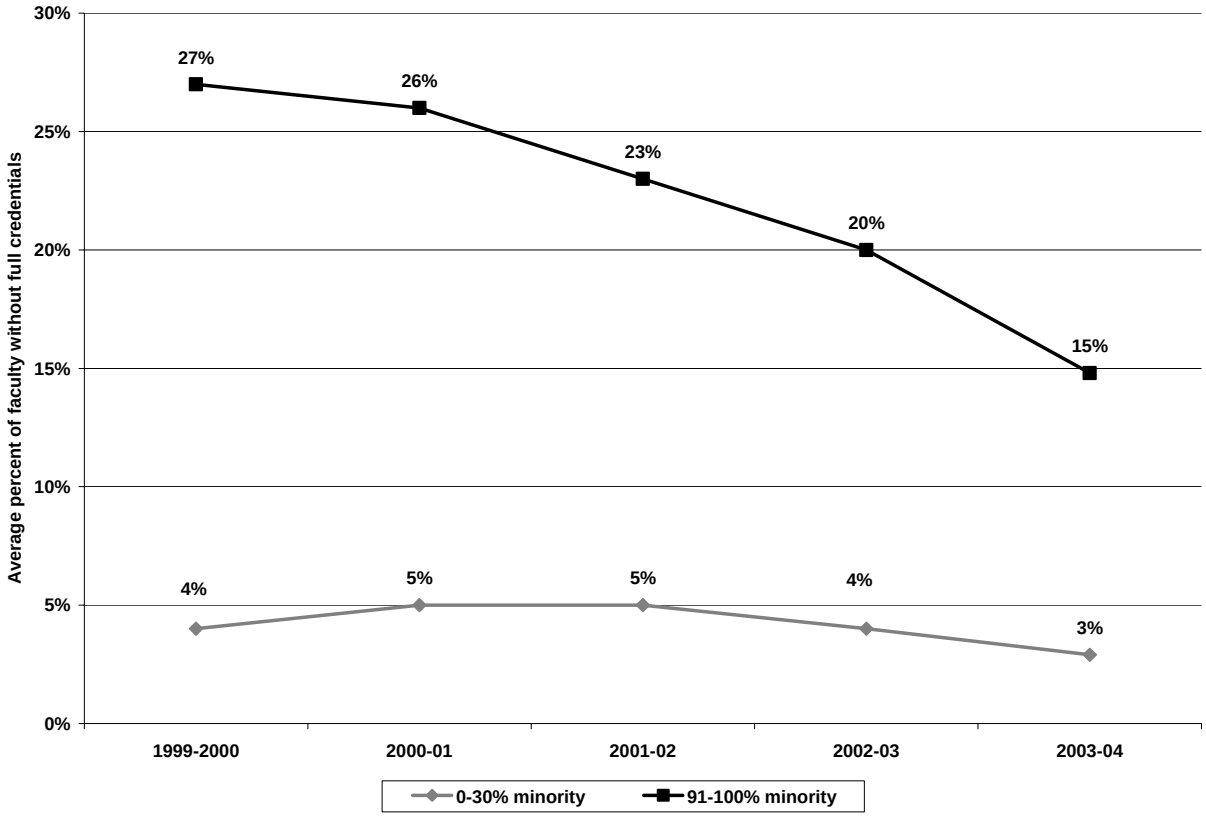


Sources: CDE (2000c, 2000d, 2001c, 2001d, 2002c, 2002d, 2003c, 2003d, 2003e, 2004c, 2004d, & 2004f); SRI analysis.
Note: See Appendix A for additional information.

Schools with large numbers of minority students are also much more likely to have underprepared teachers than are schools with few minority students. In schools where the students are predominantly from minority backgrounds, an average of 15% of teachers is underprepared. In schools with few minority students, an average of 3% of teachers is underprepared. Although the gap has narrowed in the past few years, the average percent of underprepared teachers is five times higher in schools with predominantly minority students (see Exhibit 15).

[4] The API, the foundation of California's accountability system, is a measure of school academic progress and growth. Schools receive a score that ranges from a low of 200 to a high of 1000. The scores are based on the state's STAR system and CAHSEE. The statewide performance target is 800 (see http://www.cde.ca.gov/ta/ac/ap/apidescription.asp for additional information).

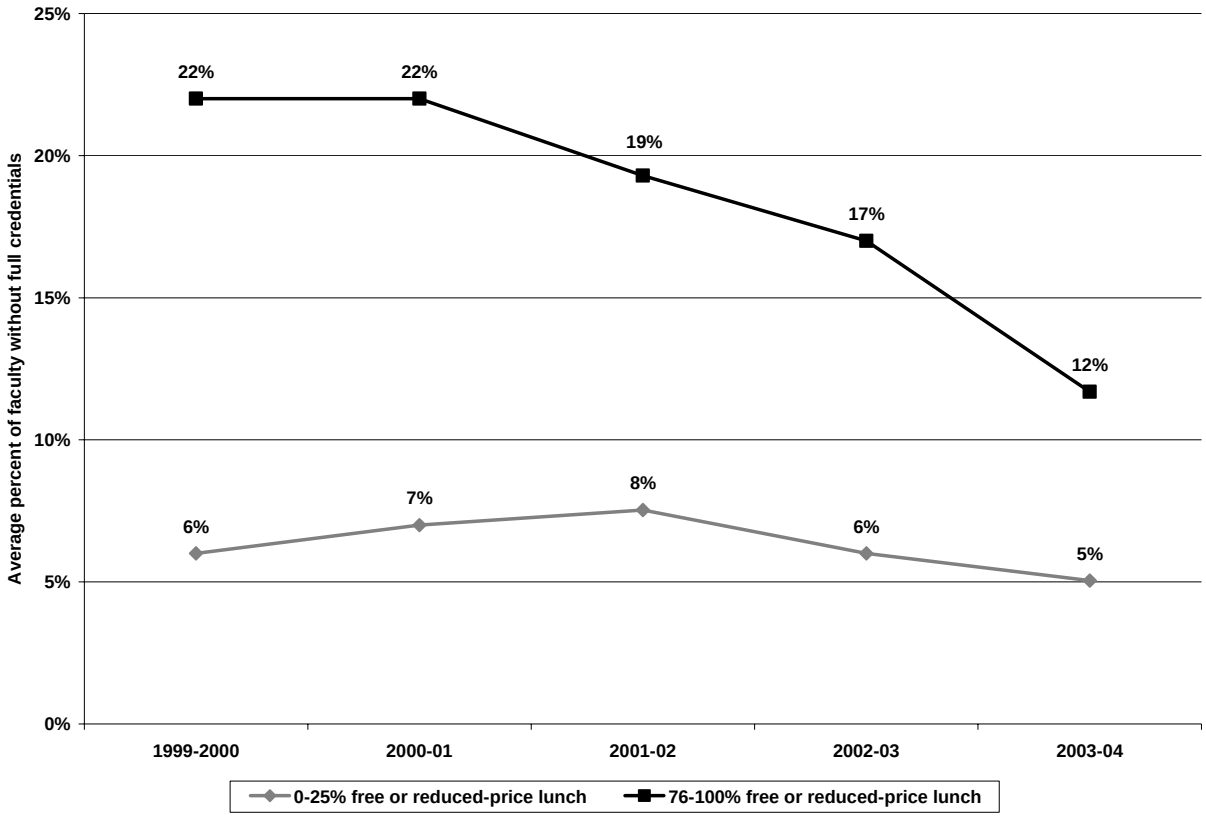
Exhibit 15
Underprepared Teachers in Schools with the Highest and Lowest Percentages of Minority Students, 1999-2000 to 2003-04



Sources: CDE (1998c, 1998d, 1998e, 1999c, 1999d, 1999e, 2000c, 2000e, 2000f, 2001c, 2001e, 2001f, 2002c, 2002e, 2002f, 2003c, 2003d, 2003f, 2004c, & 2004d); SRI analysis.
Note: See Appendix A for additional information.

A similar pattern is also found in comparisons of schools with varying percentages of poor students and ELLs. Schools with the highest proportion of students receiving free and reduced-price lunches have, on average, 12% underprepared teachers—more than twice as many as in schools with the fewest poor students (see Exhibit 16).

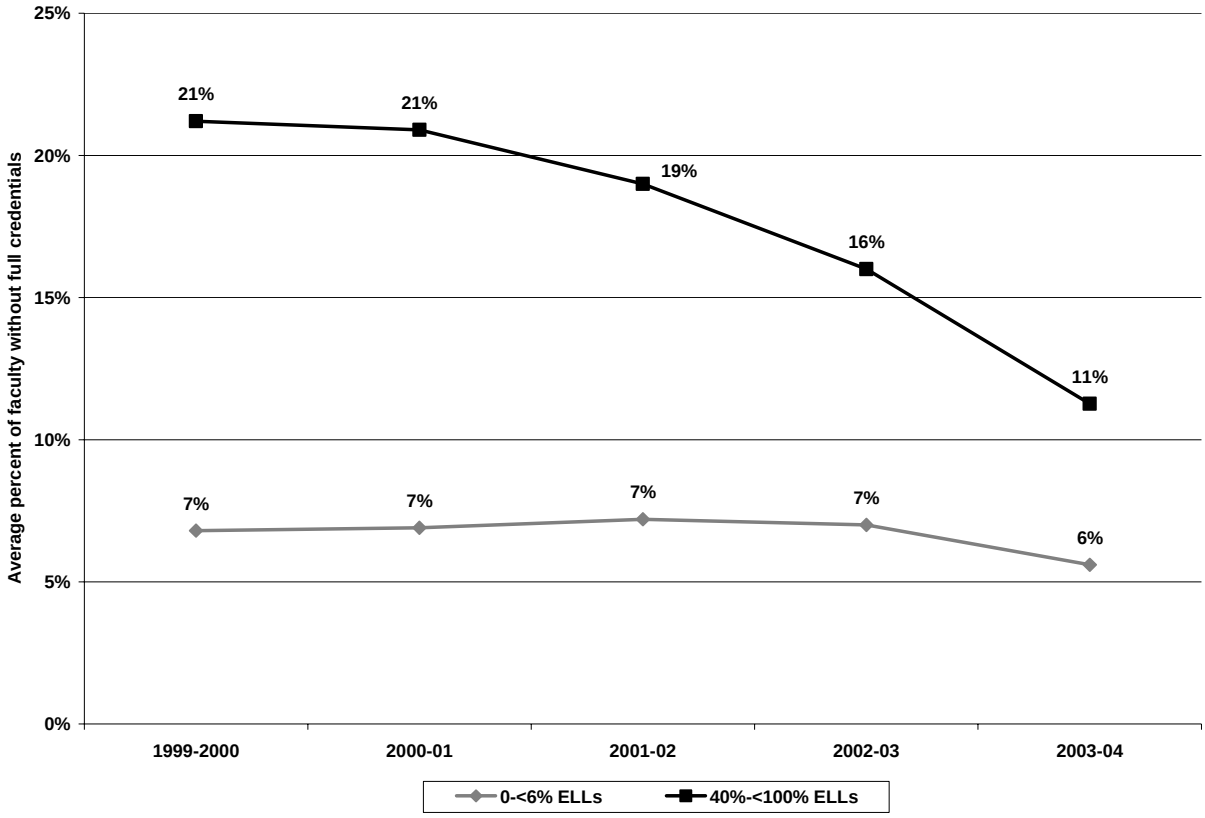
Exhibit 16
Underprepared Teachers in Schools with the Highest and Lowest Student Poverty Levels, 1999-2000 to 2003-04



Sources: CDE (1998c, 1998e, 1998f, 1999c, 1999e, 1999f, 2000c, 2000f, 2000g, 2001c, 2001f, 2001g, 2002c, 2002f, 2002g, 2003c, 2003d, 2003g, 2004c, & 2004d); SRI analysis.
Note: See Appendix A for additional information.

Schools with the greatest proportions of ELLs have 11% underprepared teachers on average (see Exhibit 17). That percentage compares with just 6% in those schools with the smallest proportions of ELLs.

Exhibit 17
Underprepared Teachers in Schools with the Highest and Lowest Percentages of ELLs, 1999-2000 to 2003-04



Sources: CDE (1999c, 1999g, 2000c, 2000h, 2001c, 2001h, 2002c, 2002h, 2003c, 2003d, 2003h, 2004c, 2004d, & 2004h); SRI analysis.
Note: See Appendix A for additional information.

Clearly, underprepared teachers are concentrated in certain types of schools—often those that are most in need of the state's best and most well-trained educators. In addition, certain subject areas have persistent shortages of fully credentialed teachers. We discuss these subject area shortages next.

Continued Teacher Shortages in Special Education and Secondary Education

Subject-specific teacher shortages have been a persistent problem in California for many years. Recently, policy-makers have taken note of the need for more teachers specifically in the areas of math and science. As part of the Higher Education Compact, the UC and CSU systems have committed to collaborating on a new initiative to prepare more teachers in those subjects. This initiative and others will be needed to address shortages in several subject areas. Although subject area shortages are less severe than in previous years, the state still has considerable work to do to ensure that all California students are taught by knowledgeable teachers. First, special education continues to have ongoing shortages of prepared teachers, particularly in schools with high proportions of minority students. Second, several secondary

subject areas are also marked by persistent teacher shortages. In addition to the numerous teachers who lack full credentials at the high school level, many fully credentialed teachers are not specifically authorized for the subjects they are assigned to teach—in other words, they are teaching "out of field." The lack of credentialed teachers with appropriate subject matter knowledge may be a particular problem for subjects that play a major role in high-stakes accountability measures, such as algebra I. This section describes these issues in detail.

Underprepared Teachers in Special Education

Over the last 5 years, the proportion of underprepared teachers at both the elementary and secondary levels has steadily declined (see Exhibit 18). However, the teacher shortage in special education has persisted. This ongoing shortage is particularly troublesome, given the continued growth in the numbers of special education students. In 2003-04, schools had 640,000 special education students between the ages of 5 and 21, who accounted for more than 10% of the student population (CDE, 2004m). The state had 37,000 full-time special education teachers, 16% of whom did not hold full credentials—a substantially higher proportion than the percent of underprepared teachers in either elementary or secondary schools. Nearly one out of every six special education teachers was underprepared in 2003-04.

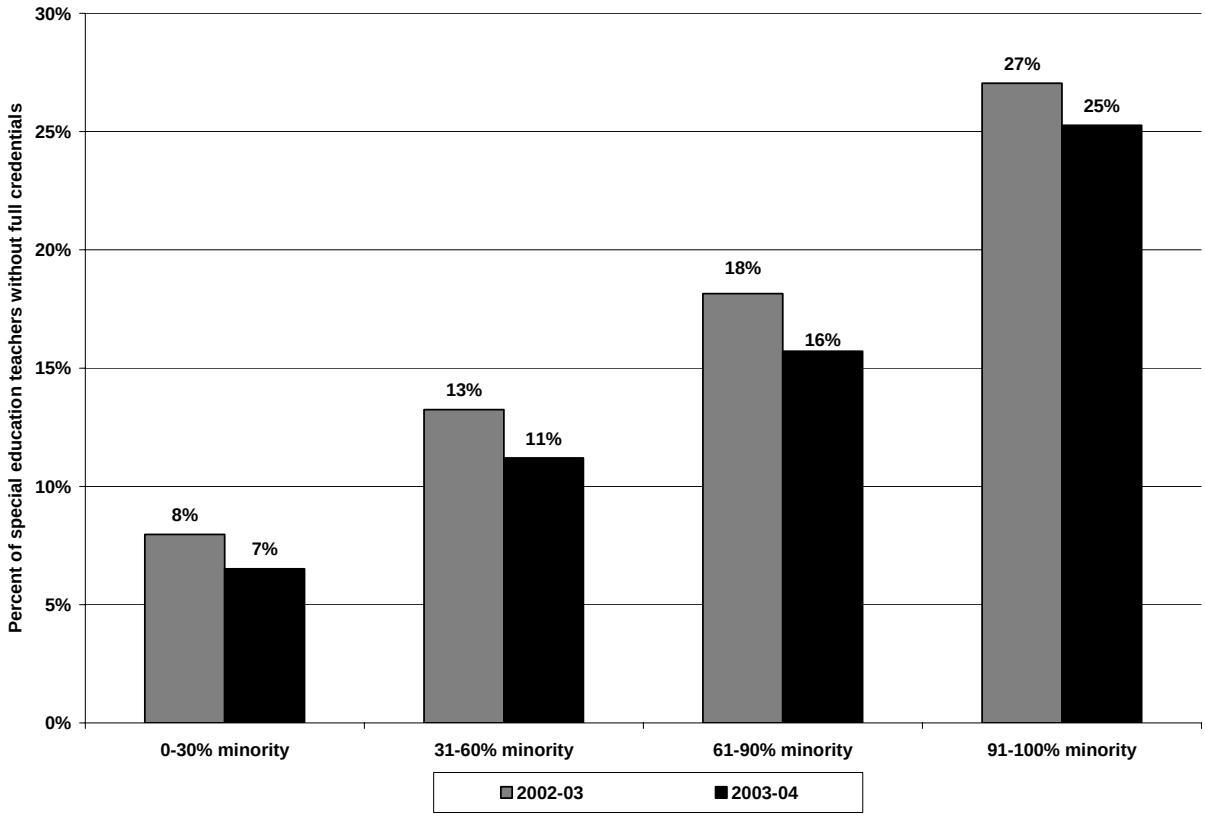
Exhibit 18
Percentage of Underprepared Teachers, by Type of Authorization, 1999-2000 to 2003-04

Authorization	1999-2000	2000-01	2001-02	2002-03	2003-04
Elementary	13%	13%	12%	10%	7%
Secondary	9%	10%	10%	10%	7%
Special education	14%	17%	18%	18%	16%

Sources: CDE (1998b, 1999b, 2000b, 2001b, 2002b, 2003b, & 2004b); SRI analysis.
Note: See Appendix A for additional information.

Furthermore, underprepared special education teachers are more likely to be found in schools with large numbers of students from minority backgrounds. In schools that served 91-100% minority students, 25% of special education teachers were underprepared in 2003-04, down slightly from 27% the previous year. In contrast, in schools with 30% or fewer minority students, just 7% of special education teachers were underprepared (see Exhibit 19). These statistics are particularly troubling in light of the requirement for special education students, like their general education peers, to meet the state's high standards, including passing CAHSEE.

Exhibit 19
Distribution of Underprepared Special Education Teachers, by School-Level Percentage of Minority Students, 2002-03 and 2003-04



Sources: CDE (2003b, 2003c, 2003d, 2003f, 2004b, 2004c, & 2004d); SRI analysis.

Out-of-Field Teachers

Not only do underprepared teachers teach classes when credentialed teachers are in short supply, but fully credentialed teachers are often recruited to teach subjects (e.g., mathematics, science) for which they do not hold a specific authorization. Our analysis of state data suggests that among fully credentialed high school teachers, large numbers teach a subject for which they do not hold the proper single subject authorization (see Exhibit 20). For example, among high school teachers assigned to teach at least one English class, almost 1,500, or 12%, are fully credentialed, but do not have a single-subject credential that authorizes them to teach the subject. An additional 8% of high school English teachers do not hold a full credential. A more alarming statistic is that nearly one-fourth (23%) of high school physical science teachers are fully credentialed, but do not have a single-subject authorization to teach physical science, and an additional 9% are underprepared.

Exhibit 20
Number and Percentage of Out-of-Field and Underprepared High School Teachers in Assigned Subjects, 2003-04

Assigned Subject	Fully Credentialed Out-of-Field High School Teachers	Underprepared High School Teachers	Total
English (N = 12,398)	1,449 (12%)	973 (8%)	2,422 (20%)
Mathematics (N = 9,091)	894 (10%)	1,037 (11%)	1,931 (21%)
Social Science (N = 8,711)	1,207 (14%)	517 (6%)	1,724 (20%)
Life Science (N = 3,257)	350 (11%)	292 (9%)	642 (20%)
Physical Science (N = 3,533)	824 (23%)	332 (9%)	1,156 (32%)

Source: CDE (2004b); SRI analysis.
Note: See Appendix A for additional information.

The problem of teachers having too little content training in their assigned subject area may be exacerbated in the middle grades. As discussed in Chapter 1, all eighth graders are now expected to take algebra I, the subject is tested for on CAHSEE, and it is required for graduation from high school. Given these high stakes and the complexity of the subject matter, most agree that algebra I requires substantial content matter knowledge on the part of teachers. In addition to being fully credentialed, algebra teachers should ideally have strong mathematics skills themselves and specific training in how to teach that subject. But many middle school algebra teachers do not have a mathematics background. In 2003-04, just 59% of fully credentialed middle school teachers who taught algebra I had a single subject authorization in mathematics. Over 40% held either a multiple-subject credential or a single-subject credential in a different subject. Although either a multiple-subject or a single-subject credential is allowable under California state law and NCLB, the mathematics requirements of a general multiple-subject credential may not be sufficient, given the heightened expectations for mathematics achievement in middle school. California middle schools will need to ensure that their mathematics teachers are well-equipped to help all students master algebra I.

Conclusions

Despite the significant progress California has made in improving the teacher workforce, the state will continue to face challenges in ensuring that all students have access to effective teachers. The state has an aging teacher workforce, growing student enrollment in the secondary grades, a continuing maldistribution of underprepared teachers in the state's lowest performing schools, and shortages of fully credentialed teachers in special education and many secondary subject areas.

These problems all coincide with higher expectations for students. Not only must they (beginning with the class of 2006) pass CAHSEE to graduate from high school, students must also now pass algebra I, often considered a gatekeeper course for admission to higher education. If students are required to meet higher standards to graduate from high school, they must be provided with truly effective and knowledgeable teachers. It is imperative that policy-makers continue to build on the efforts of the late 1990s to ensure that teachers are not only prepared, but also have the deep subject matter knowledge and pedagogical skills to teach to high academic standards in an era of increased accountability for teachers and students alike. Given the need for large numbers of new teachers in the next decade, particularly in the secondary grades in the short term, the state will need to evaluate its investments in teacher recruitment, preparation, and professional development. We turn to these issues in Chapters 3 and 4.

Chapter 3. Teacher Preparation and Recruitment

The Impact of the State's Budget Crisis

- The state's budget crisis has led to the elimination of several major recruitment efforts, fee increases for teacher credential candidates in the CSU system, and a lack of funds to fully implement the TPA, a key component of SB 2042.

Federal Influence on State Teacher Preparation Policy

- Under NCLB, California has defined "highly qualified" teachers to include intern credentials. Since the passage of NCLB, the number of intern credentials has increased, and the number of emergency permits has decreased. But not all trends have been positive: The production of preliminary credentials has declined, as has enrollment in regular (nonintern) preparation programs.

Trends in Teacher Production

- In 2002-03, the number of new preliminary credentials produced in California declined to about 19,000, down from more than 21,000 in the previous year and signaling the first decrease in 6 years. Participation in regular (nonintern) credential programs in the CSU system also decreased to 23,400 in 2003-04—a decline of nearly 1,900 from the previous year.
- Intern programs, meanwhile, have seen an increase in participation of close to 300 individuals in the last year, or about 9%. Intern credentials are also on the rise, growing three-fold in the past 5 years. In addition, the number of interns who finish their teacher preparation and upgrade to a preliminary credential appears to be rising: 3,500 interns upgraded in 2002-03, compared with about 2,250 two years earlier.
- The production of special education credentials has not kept pace with demand. A recent increase in the number of special education credentials is promising, but not enough to address chronic shortages. Intern credentials in special education have increased. In 2002-03, the state issued approximately 1,150 special education intern credentials, representing almost a third of all special education credentials issued that year.
- The number of emergency permits has been declining since reaching its high point of more than 34,000 in 1999-2000. In 2002-03, the state issued more than 20,500 emergency permits, and all indications point toward a continued decline. Although the number of permits should continue to decline, emergency permits remain the most commonly held document of underprepared teachers.

After years of effort to improve both the quantity and quality of the teacher workforce, California had recently begun to see promising results. The number of preliminary credentials produced in the state has increased, and the number of underprepared teachers in state schools has declined. Nonetheless, the number of underprepared teachers remains unacceptably high, and progress in producing more credentialed teachers has come to a halt. Given the projected increase in demand for teachers in the next 5 to 10 years, California's teacher development system faces challenges ahead.

Several new factors have come into play in the areas of teacher preparation and recruitment. The state's budget crisis has led to cuts in teacher recruitment programs and higher education, and left the TPA—a unique effort to assess the actual teaching performance of credential candidates—without funding. NCLB has led to an increase in intern credentials and a decrease in emergency permits, but not to an increase in preliminary credentials or an increase in enrollment in "traditional" preparation programs in which individuals are trained before taking teaching jobs. Special education is particularly problematic: While the number of special education interns has substantially increased, the number of special education preliminary credentials issued has not risen as quickly.

This chapter provides details about the key factors influencing teacher preparation and recruitment in the state, and examines trends in teacher production. We begin by describing how California's recent budgetary problems have affected the state's systems of teacher preparation and recruitment. Next, we describe the effects of NCLB on the state's teacher preparation policy and teacher production. Finally, we present and analyze trends in teacher production, including the recent decline in the number of preliminary credentials issued and the increase in intern credentials.

The Impact of California's Budget Crisis on the State's Preparation and Recruitment Efforts

When faced with a severe teacher shortage in the second half of the 1990s, California responded on many fronts to the need for more teachers. Intern programs were expanded to train teachers and move them quickly toward acquiring a full credential. Pre-intern programs were developed to help move emergency permit teachers into intern programs. Other, alternative routes to teaching were developed, including distance-learning programs and "blended" teacher education programs for undergraduates. New funds for teacher preparation were granted to the CSU system, which increased the number of graduates from its teacher education programs. In addition, millions of dollars were devoted to recruiting new teachers. For the remainder of the decade, the status of the teacher workforce improved, with an increase in the number of preliminary credentials and a decline in the number of emergency permits.

In 2001, however, the state saw a significant drop in revenues and began to make cuts to many teacher-related programs. The biggest cuts were in the area of recruitment, perhaps because the shortage had lessened in severity in some schools and districts and was no longer seen as an urgent problem. More recently, cuts have been made to higher education, which have implications for teacher preparation. Another effort to improve teacher quality, the TPA, was never fully funded. We describe these budgetary issues next.

Cuts to State Recruitment Efforts

When the teacher shortage reached a state of crisis in the 1990s, California policy-makers enacted a series of measures to enhance recruitment. Efforts included regional teacher recruitment centers, an online job bank, and substantial grants to local districts for recruitment. At its peak in 2000-01, spending for recruitment initiatives exceeded $150 million. The recruitment push was short-lived, however; most of the efforts begun in the late 1990s were eliminated in 2003-04 because of the state's budget crisis. Funding for the TAP block grants, TRIP and its regional recruitment centers,[5] and CalTeach was eliminated, as were the Governor's Teaching Fellowship and the Cal Grant T programs.

A few recruitment efforts continue: The Assumption Program of Loans for Education (APLE) program, funded at $32 million in 2004-05, assumes loans of teacher credential candidates who teach in subjects or schools experiencing shortages; the Paraprofessional Teacher Training Program (PTTP) targets classroom aides; and the Troops to Teachers program targets retired military personnel. (The last two programs have had relatively little impact, however, given the scale of California's teacher needs.) PTTP, which assists paraprofessionals with the costs of teacher preparation and supports them as they progress toward a credential, has added only about 800 credentialed teachers to the profession since its inception in 1994-95. To its credit, however, the retention rate for the 800 PTTP teachers is 99%, probably because of its strategy of finding teacher candidates within the communities that need them and its long-term commitment to those individuals (CTC, 2003e). The federally funded Troops to Teacher program issues scholarships to cover teacher preparation costs—$5,000 per candidate, plus an additional $5,000 if the candidate teaches at a low-performing school. The program contributes 75-80 candidates per year to the teacher preparation pipeline (Troops to Teachers, 2004). Finally, two online resources are funded by the state: The TEACH California Web site, which is built on the Web site of the now-defunct CalTeach, is run by CDE's Special Education Division and seeks to recruit special education, mathematics, and science teachers. On the other state-funded site, Ed-Join, teachers can search for jobs and post resumes.

Unfortunately, the recruitment efforts remaining in California may not be sufficient to remedy current shortages or prevent future ones. Given the age distribution of the teacher workforce (discussed in Chapter 2), recruitment will become increasingly important in the next 5 to 10 years. The problem is more immediate at the secondary level, where growing student enrollment growth is projected to intensify existing shortages in some subject areas. Although saving the state money in the short term, cuts to recruitment may exacerbate the projected shortages of teachers in the long term.

Budget Cuts to Higher Education

As state revenues declined as a result of the economic downturn, spending on many teacher-related initiatives also fell. Teacher preparation programs are not funded directly at the state level, but instead are part of the overall budgets of the state university systems. In 2004, higher education funding was cut as part of the "Higher Education Compact" agreed to by the

[5] A few of the regional recruitment centers continue to exist, but are no longer supported by a specific allocation from the state. The centers remaining receive limited funding from other sources and have had to significantly reduce their recruitment activities.

Governor and UC and CSU systems. The compact guaranteed future funding stability in exchange for short-term budget cuts and long-term commitments, such as a new initiative to increase the number and quality of math and science teachers in the state. Ultimately, about $40 million of the lost funding was restored by the Legislature when the state budget was passed, but CSU still suffered a net loss of $157 million in unfunded costs and General Fund reductions (CSU, 2004b).

As part of the compact, CSU agreed to increase fees for all students. Fees for teacher credential candidates have increased by 20% for 2004-05, with additional increases of at least 10% scheduled for both 2005-06 and 2006-07. (The 2004-05 fee increase for other, nonteacher credential graduate students was 25%.) These increases could impede recruitment into preparation programs or slow the progress of candidates already enrolled in a program. Other implications for teacher preparation are unclear. The amount of money spent on teacher preparation is not specified centrally, instead being decided at the individual campus level. Although teacher preparation remains a high priority in the CSU system, all campuses are operating with reduced funding, and will need to make cuts somewhere.

Underfunding of the TPA

In 1998, SB 2042 established new and higher standards for teacher preparation programs, as well as a new two-tiered credential structure that introduced more requirements for teachers pursuing a Level II, or professional clear credential. To date, nearly all teacher preparation programs in the state have been approved under the new standards put in place by SB 2042. One component of the new credentialing process that is not in place, however, is the TPA.

The TPA is an assessment of prospective teachers who have completed teacher preparation and are applying for a preliminary credential. The assessment is based on the Teacher Performance Expectations (TPEs), which mirror the California Standards for the Teaching Profession (CSTP). The TPA requires teachers to perform tasks based on real students that the candidate is teaching, with classroom observation of the candidate.

Though the TPA is written into law as part of SB 2042, it has not been coupled with a budget allocation to institutions of higher education to fund administration of the test, which is expected to be costly given the complexity of the assessment. Without state funding, the TPA is essentially an inactive requirement. At the same time, preparation programs are still required under SB 2042's standards to assess their candidates against the TPEs before recommending them for a preliminary credential. Therefore, despite the lack of state funding, many programs are moving ahead with implementing the TPA or a similar test: The CTC has offered training on the TPA to assessors at many institutions. The CSU system has funded regional meetings of faculty for TPA training. The UC system and a few private and CSU institutions are jointly developing an alternative version of the assessment, known as the Performance Assessment for California Teachers (PACT).

It is unknown how or at what pace TPA implementation will proceed. Clearly, it lacks both state budget support and federal legislative support; the latter favors assessments of subject matter knowledge in determining teacher competency. Nevertheless, policy-makers legislated the TPA based on the belief that it is a superior test compared with others required as part of the credentialing process because it is an assessment of performance, rather than a

pencil and paper test of knowledge. To fulfill the intention of SB 2042 and fully implement the TPA, however, the state will need to provide adequate funding.

Federal Influence on State Teacher Preparation Policy

Definition of "Highly Qualified"

For years, California has had several options for hiring teachers who have not completed teacher preparation. As a result, teachers are authorized to teach in California schools under a multitude of alternative credentials, permits, and other documents. With the passage of NCLB, California was required to define a "highly qualified" teacher, and to ensure that its schools hired only those teachers in core subjects by 2005-06, or face sanctions. Confronted by a substantial shortage of fully credentialed teachers, California policy-makers chose to define "highly qualified" teachers as those who (1) have a bachelor's degree, (2) have demonstrated competence in each subject area they teach, and (3) have a credential or are working toward one in an alternative certification program.

This definition distinguished among the array of certification options available to California teachers: The holders of some are now considered highly qualified; others are not (see Exhibits 21 and 22). Importantly, interns who have demonstrated subject matter competency are now considered highly qualified under the federal law, a decision that has affected credentialing trends.

Exhibit 21
NCLB-Compliant Paths into the Teaching Profession

Route	Key Features	When Teacher Education Occurs:	Status/Numbers
Preservice or "traditional" fifth-year program	• University-based programs	Before assuming teaching position	Number who complete teacher training before teaching is not tracked statewide.
Blended programs (1999)	• Combination of teacher education with an undergraduate degree	Before assuming teaching position	Growing slowly. 2,700 enrollees in 2003-04.* 1,100 have completed the program since 1999.
University internship	• University-based programs • Prerequisite: subject matter competency • Valid for 2 years, renewable for 1 additional year	Concurrent with employment as a teacher	Strong growth since 1995-96. 5,800 in 2002-03.
District internship	• District-based programs • Prerequisite: subject matter competency • Most commonly found in large, hard-to-staff districts • Valid for 2 years, renewable for 1 additional year	Concurrent with employment as a teacher	Strong growth until 1998-99, flat from then to 2002-03 (about 900 per year).
CalState-TEACH (1999)	• Distance-learning program • Self-study, plus on-site coaching • Targeted at working teachers, career changers, candidates in remote locations	Before or concurrent with employment as teacher	About 800 current enrollees; 1,500 credentials since 1999.
Individualized Internship Certificate (2002)	• Targeted at emergency permit holders who are subject matter competent but not enrolled in an intern program • Required enrollment in a university-based preparatory program and the development/signing of an individualized plan to acquire the credential • Valid for 2 years, renewable for 1 additional year	Concurrent with employment as teacher	About 2,600 to date
Early Completion Internship (2001)	• Option of bypassing teacher education coursework by passing the Foundations of Teaching assessment • Required completion of TPA or other fieldwork assessment	Concurrent with employment as teacher	400 recently took the test, and pass scores are not yet available.

Sources: CTC (1999a, 1999b, 2002b ,2002c, 2003b, 2004f, 2004h, 2004i & 2004j); CSU 2004c.
**The source of the number of blended program enrollees is CTC, 2004f. A different source (CSU, 2004a) indicates that the number of enrollees in 2003-04 is much lower, at about 900. The cause of this discrepancy is unknown.*

Exhibit 22
Non-NCLB-Compliant Paths into the Teaching Profession

Route	Key Features	When Teacher Education Occurs:	Status/numbers
Emergency permit	• Teachers have not demonstrated subject matter competency • Teachers may or may not be enrolled in teacher preparation courses • Renewable annually, maximum of four renewals until 2006	Concurrent with employment as teacher	Numbers declining since 1999-2000. 20,600 in 2002-03. CTC phasing out the permits by June 30, 2006.
Pre-internship	• Teachers have not demonstrated subject matter competency • Teachers participate in program designed to help them pass subject matter test and enroll in an internship program • Only existing participants can renew; this option is no longer available to new applicants	Concurrent with employment as a teacher	Numbers fell in 03-04 to about 5,000. The program is unlikely to be funded next year.
Waiver	• Teachers have not demonstrated subject matter competency • One or more basic requirements has been waived • Holder must demonstrate progress toward a credential • Valid for 1 year, renewable on a case-by-case basis and subject to certain conditions, with usually no more than two renewals	Concurrent with employment as a teacher	Declining steadily since 1998-99, from 3,300 to about 1,100 in 2002-03.
Provisional Internship Permit	• Used for anticipated hires when a credentialed teacher cannot be found • Requires a BA and 40 units in subject matter for a multiple-subject permit and 18 for a single-subject permit • The district must provide a mentor and supervision, and sign an agreement with the applicant that outlines steps for completing subject material requirements/enrollment in an intern program • Renewable annually for a maximum of 2 years	Concurrent with employment as teacher	Newly available
Short-term Staff Permit	• The short-term permit applies to unanticipated hires • BA and 40 units subject matter for a multiple-subject permit 18 for a single-subject permit are required • Valid for 1 year, nonrenewable	Concurrent with employment as teacher	Newly available

Sources: CTC (2004d, 2004e, 2004g, 2004k, & 2004j).

As we describe in the next section, the net result of NCLB thus far has been a reduction in the issuance of non-NCLB-compliant documents, most notably emergency permits, and an increase in the issuance of intern credentials. However, the number of preliminary credentials (full credentials) issued has declined, not increased. Thus, although California is closer to meeting the letter of the federal law, its system of teacher production may not have the capacity to meet the more ambitious goal of providing every student with a fully prepared and effective teacher. By defining interns as "highly qualified" under NCLB, California has legitimized intern programs and eliminated disincentives for teachers to participate in them. Internships do meet federal compliance requirements, but this route, once considered a temporary emergency measure, has now been institutionalized as equally preferable to preservice preparation.

Other State Policy Responses to NCLB

To align itself better with NCLB, the state is phasing out options that authorize teachers who have not demonstrated subject matter competency. CTC and the Legislature have been engaged in parallel efforts to eliminate the emergency permit option, which will no longer be available as of July 2006. In addition, pre-intern certificates will no longer be issued once the program is phased out next year.

The state has yet to fully align with the federal legislation, however. Although emergency permits will be phased out, districts that cannot find credentialed teachers or interns will have two new non-NCLB-compliant options: the Short-Term Staff Permit and the Provisional Intern Permit (described in detail below). The CTC attempted to eliminate emergency permits in 2003, ahead of the NCLB timeline; however, it faced heavy opposition from districts that wanted an option for hiring non-NCLB-compliant teachers in emergencies. These new permits represent a compromise with the districts.

Another NCLB-instituted policy change requires teachers who teach multiple subjects to demonstrate subject matter competency by passing the CSET before taking responsibility for whole-class instruction as a student teacher or as the teacher of record. This requirement departs from previous California policy that allowed multiple-subject teachers to demonstrate subject matter competency by taking approved coursework. Some speculate that this change will act as a gatekeeper and that it may also discourage some from pursuing teacher preparation altogether. Others argue that demonstrating subject matter competency through an examination is essential to maintaining teacher quality, and that any loss in numbers is a gain in the overall competence of the workforce.

Veteran multiple-subject teachers who previously met their subject matter competency via coursework must now complete HOUSSE, which assesses teachers' qualifications and experience. Point values are assigned for teachers' educational credits, years of experience, professional development, and leadership and service activities. (The state-developed HOUSSE form lists qualifying professional development activities and leadership roles, but the district can also define additional ones.)

Trends in Teacher Production

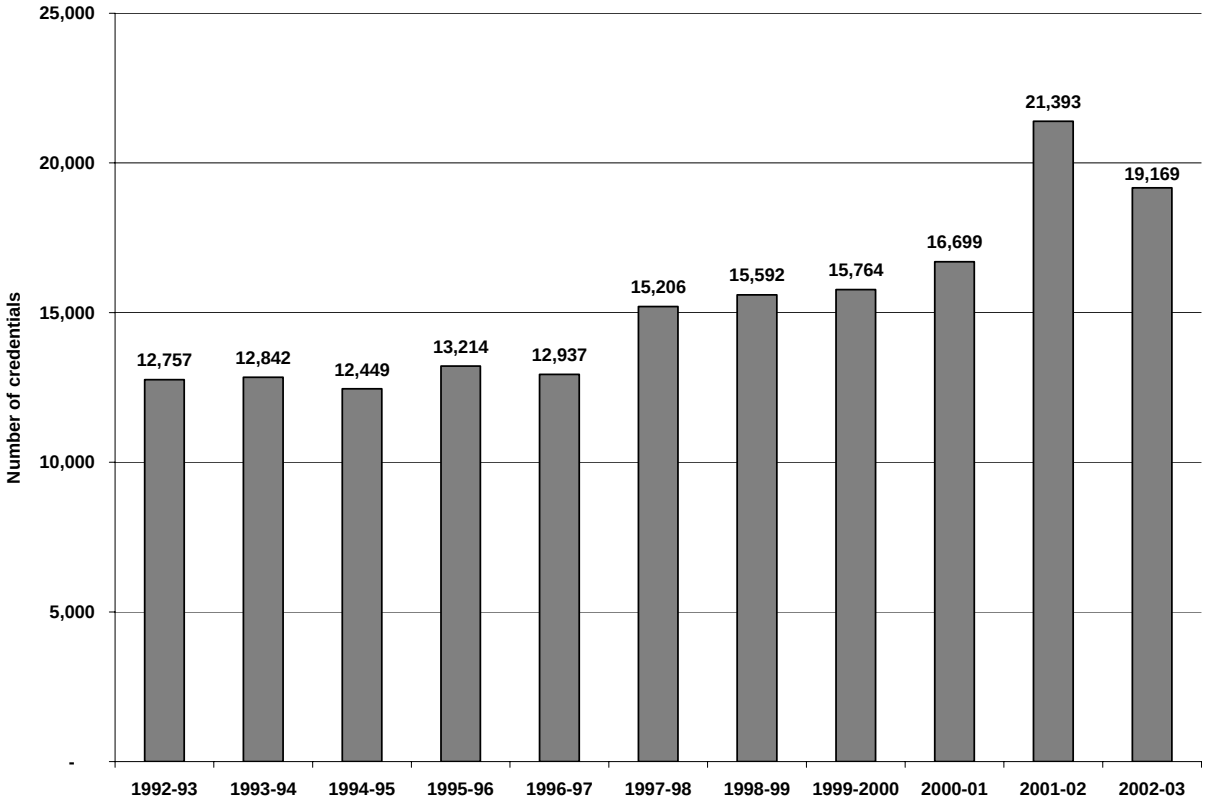
NCLB and the resulting changes to California state policy have influenced teacher credentialing and preparation in several ways: Teachers with pre-intern certificates, waivers, and emergency permits—categories that are not considered compliant with NCLB—are being

encouraged to demonstrate subject matter competency and enroll in intern programs. In addition, the state is phasing out emergency permits and has extensively cut funding for the pre-intern program. However, the state has made less progress in increasing the number of teachers who complete regular teacher preparation programs before they enter the classroom. In this section we describe how the number of preliminary credentials issued has declined in the last year, and compare that number with the number of intern credentials, which continues to increase.

Declining Number of Newly Credentialed Teachers

In 2002-03, the most recent year for which data are available, the number of new preliminary credentials fell to slightly more than 19,000—the first drop in 6 years (see Exhibit 23). This decline reversed the trend of the past decade that saw substantial growth in the numbers graduating from teacher preparation programs and earning a preliminary credential. At its peak in 2001-02, the state produced more than 21,000 new preliminary credentials.

Exhibit 23
New Preliminary Teaching Credentials Issued, 1992-93 to 2002-03



Sources: CTC (1998a, 1999a, 2000a, 2001a, 2002a, 2003a, & 2004a).
Note: See Appendix A for additional information.

As discussed in Chapter 2, the latest enrollment data from the CSU system, California's biggest producer of teachers, indicate that credential production may continue to be sluggish in the near future. Several reasons could account for the decline in teacher production and enrollment in preparation programs, including reduced recruitment efforts and recent fee

increases. Other causes could be a perceived lack of available teaching jobs, or the new requirement that all multiple-subject credential candidates take the CSET.

Blended Programs: Small but Steady Producers of New Preliminary Credentials

One credential path that has slowly but steadily grown in recent years is the blended program. Blended programs integrate undergraduate education and teacher education, offering early deciders a streamlined route to a teacher credential. Blended programs have existed informally for many years in California, particularly at private universities, but were not formally established and encouraged by the state until the passage of SB 2042 in 1998. By the summer of 2004, 38 blended programs were in operation at 26 universities (although this number is expected to decline, given that 7 of these programs have chosen not to reapply for approval under new Blended Program Standards) (CTC, 2004f). Ninety-two percent of blended program students are enrolled in a CSU program.

Blended programs have grown from about 400 enrollees in 1999-2000 to 2,700 in 2003-04.[6] Since 1999, approximately 6,700 students have enrolled in the programs, and close to 1,100 students have completed one.[7] In the next few years, however, these numbers will grow as candidates complete the 4- and 5-year programs.

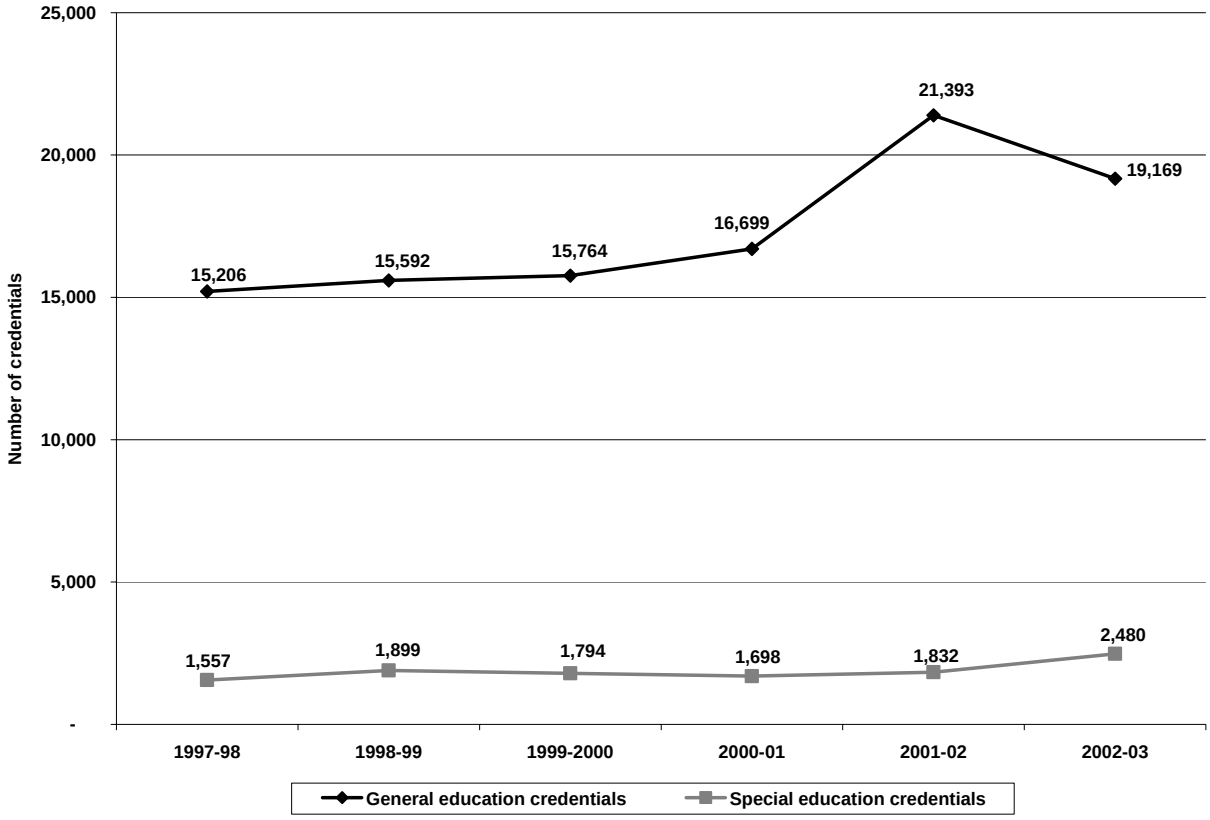
The strength of the blended program is that it prepares candidates fully before placing them as teachers of record in classrooms. The program's weakness is its limited size. Another potential area for improvement is in diversity of the credentials produced. Currently, 98% of blended program enrollees are multiple-subject credential candidates. Given the state's ongoing shortage of fully credentialed teachers in special education and certain single subjects, California may want to focus additional resources on blended programs to increase teacher production in those areas.

An ongoing area of concern is the production of preliminary credentials in special education. In the years when general education credentials were increasing the most, special education credentials did not keep pace (see Exhibit 24). Between 1997-98 and 2001-02, general education credentials increased by 41%, whereas special education credentials rose by only 18%. In 2002-03, the most recent year for which data are available, special education credentials rose while general education credentials fell—a promising reversal of the usual trend but not nearly enough to address the chronic shortage of special education teachers. The production of new special education credentials is particularly important because the special education student population has been growing steadily. In just the past 4 years, the number of special education students ages 5 to 21 has risen from 612,000 to approximately 640,000 (CDE, 2004m).

[6] Blended programs at CSU campuses do not begin tracking participants until they are juniors; thus freshman and sophomore participants are not represented in enrollee numbers.

[7] The source of the number of blended program enrollees is CTC (2004f). A different source, CSU (2004a) indicates that the number of enrollees in 2003-04 is much lower, around 900. The cause of this discrepancy is unknown.

Exhibit 24
General Education and Special Education Preliminary Credentials Issued, 1997-98 to 2002-03



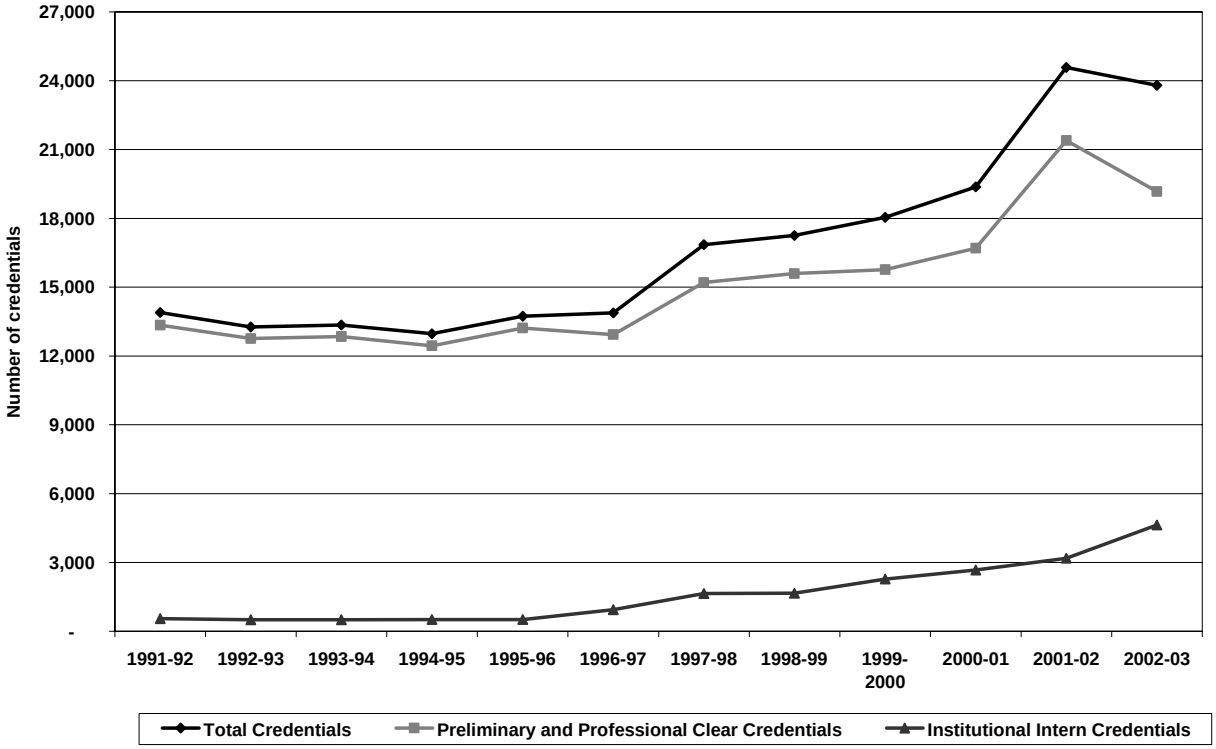
Sources: CTC (2003b & 2004c).

Given the pressing need for credentialed special education teachers (discussed in Chapter 2), this area clearly requires state attention and investment.

Increasing Numbers of Intern Credentials

Whereas the production of preliminary credentials has stalled in the last year, the number of intern credentials has risen rapidly. Over the last 5 years, the number of intern credentials has tripled, while the number of new preliminary credentials has increased by just one-fourth (see Exhibit 25). In 2002-03, the most recent year for which data are available, there were approximately 4,600 institutional intern credentials issued, or nearly 20% of all new credentials issued that year. Analyses have shown that, as with other types of underprepared teachers, interns are most heavily concentrated in schools serving high numbers of poor and minority students, and in low-performing schools.

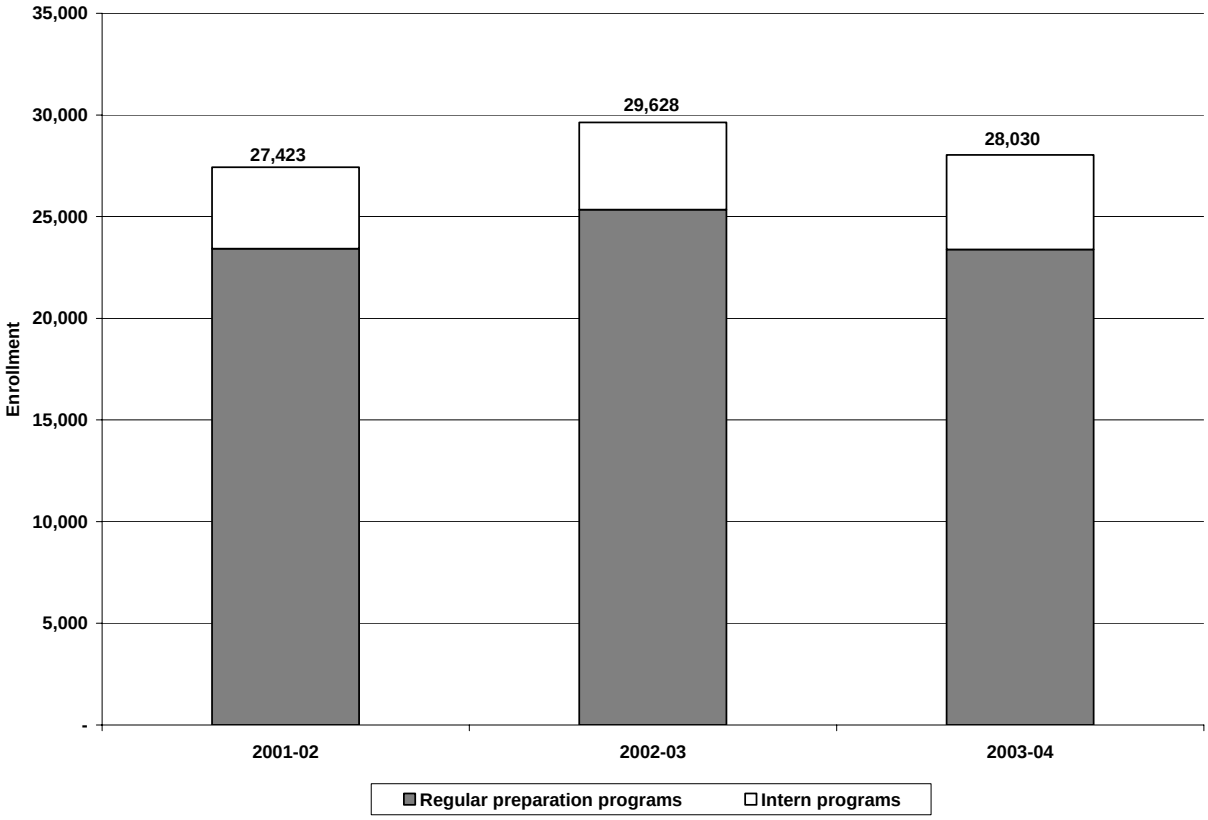
Exhibit 25
New Preliminary and Intern Credentials Issued, 1991-92 to 2002-03



Sources: CTC (1998a, 1999a, 1999b, 2000, 2001a, 2002a, 2003a, & 2004a).
Note: See Appendix A for additional information.

Enrollment data for CSU teacher preparation programs show that this pattern is likely to continue into the near future. Participation in regular credential programs was down to 23,400 in 2003-04—a drop of about 1,900 from the previous year, or 8% (see Exhibit 26). Participation in intern programs, however, increased by about 300, or about 9%.

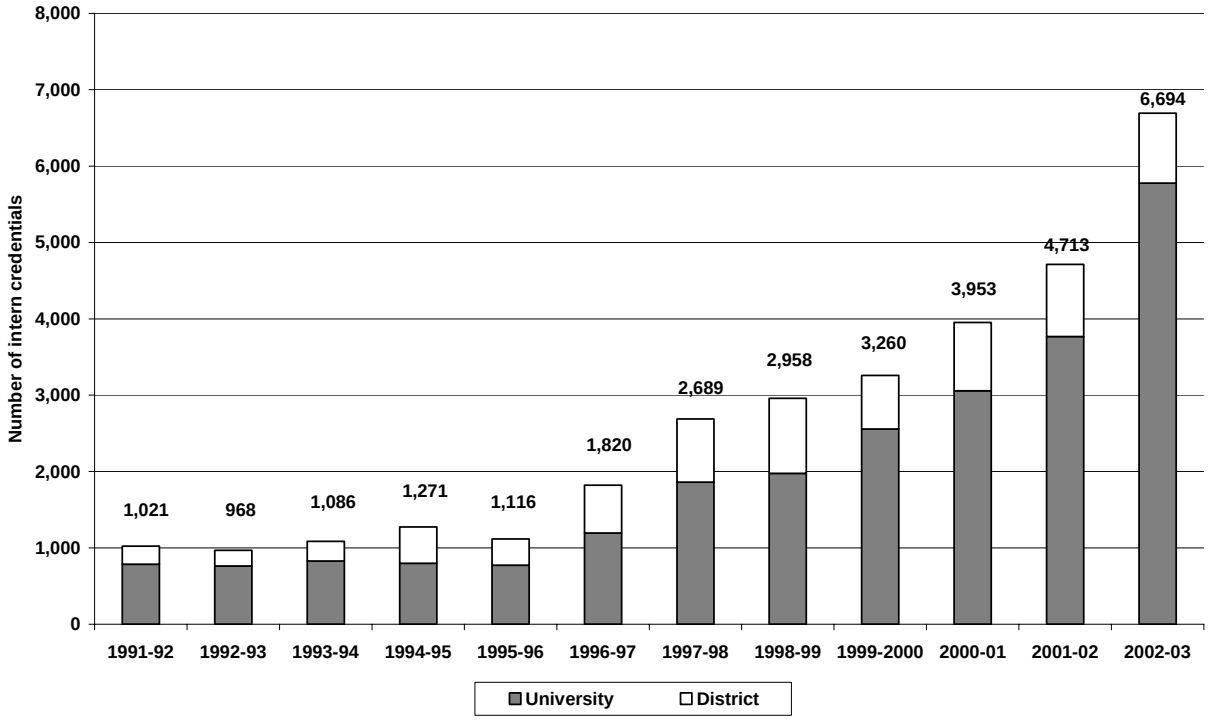
Exhibit 26
Enrollment in CSU Teacher Preparation Programs, 2001-02 to 2003-04



Source: CSU (2004a).

Most growth in intern credentials has occurred in university intern programs; over the past 6 years, the number of district intern credentials issued has fluctuated from year to year, but remained at about 900 (see Exhibit 27).

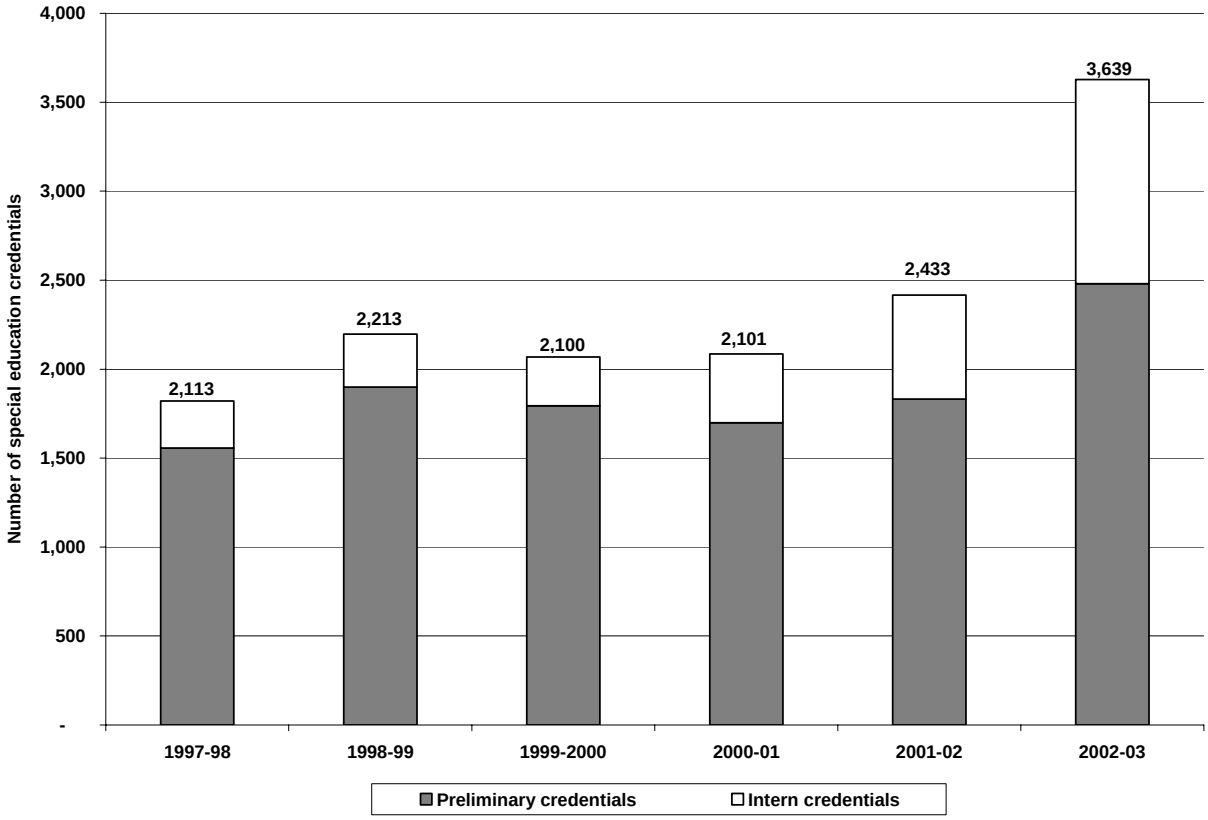
Exhibit 27
New University and District Intern Credentials Issued, 1991-92 to 2002-03



Sources: CTC (1999a, 1999b, & 2002b).

As general education intern numbers have grown, so too have special education interns. Between 1997-98 and 2002-03, the number of special education interns more than quadrupled. In 2002-03, approximately 1,150 special education intern credentials were issued, representing almost a third of all credentials issued in special education that year (see Exhibit 28). While it is heartening that the overall number of individuals pursuing a career in special education is growing, it is troubling that all of this growth is in internship programs, which place teachers in the classroom before they have completed their pedagogical training.

Exhibit 28
New Special Education Credentials Issued, 1997-98 to 2002-03



Sources: CTC (2003b, 2004a, & 2004c).
Note: See Appendix A for additional information.

The growth in intern credentials has been supported by increased state funding for intern programs. Funding for the programs increased dramatically in 2000-01 and 2001-02. In the most recent budget, 2004-05, intern programs were allotted $24.9 million (see Exhibit 29). As of fall 2004, participating programs had requested funding for 9,135 interns, or about 250 more than the previous year.

This growth and more will be necessary, given the growing need to move emergency prepared teachers into intern programs to achieve compliance with NCLB. In 2003-04, more than 20,000 teachers reported having either an emergency permit or a pre-intern credential, indicating that far more intern slots will need to be funded to move the entire workforce into compliance with NCLB.

Exhibit 29
Internship Program Participation and Funding, 1994-95 to 2004-05

Fiscal Year	Number of Funded Programs	Number of Interns Served	Number of Districts Involved	Funding (in millions)
1994-95	29	1,238	150	$2.0
1995-96	23	1,471	178	$2.0
1996-97	23	1,888	186	$2.0
1997-98	52	3,706	271	$4.5
1998-99	58	4,340	330	$6.5
1999-2000	65	4,827	408	$11.0
2000-01	75	5,649	465	$21.5
2001-02	81	7,236	594	$31.8
2002-03	79	7,505	762	$18.8
2003-04	77	8,880	800	$22.5
2004-05	75	9,135	826	$24.9

Sources: CTC (2001d, 2001e, 2003d, & 2004e).
Note: 2004-05 numbers are based on requests from participating programs and their districts.

CalStateTEACH: California's Distance-Learning Option

A special option for interns is CalStateTEACH, California's distance education program. (The program is also available for candidates who are not yet employed as teachers.) Administered by four regional centers, this program offers teacher education through books and CD-ROMs, Web-based discussions, and classroom visits from traveling faculty supervisors. Many of the program's enrollees are individuals who are returning to higher education and starting a new career, and most complete the program in 16 months. Compared with typical university intern programs or regular credential programs, CalStateTEACH is relatively small: the program enrolled close to 1,000 students in 2003-04 (CSU, 2004c).

The number of interns who ultimately complete their teacher preparation and earn a preliminary credential appears to be increasing. In recent years, the number of interns who "upgrade" to preliminary credentials has increased, both in absolute numbers, and as a percentage of people who participate in intern programs.[8] In 2002-03, 3,500 interns upgraded to a preliminary credential, compared with approximately 2,250 in 2000-01. Although the increase in upgrades is a positive trend, California policy-makers should view the overall

[8] Calculated by dividing the number of upgrades from intern to preliminary credentials by the number who received an intern credential in the two previous years.

growth in interns with caution. The intern route has become legitimized by federal policy and solidified as an acceptable route into teaching by rapidly growing numbers of participants.

Policy-makers must ask whether or not the legitimization of the intern route is in the best interests of the tens of thousands of students who are taught by interns, or whether it is merely a swift and convenient way for districts and the state to comply with NCLB. This question is particularly applicable to two newer intern options, discussed below. These options are expected to become more prominent as compliance with NCLB grows increasingly important for the state, employing districts, and the candidates themselves.

New Internship Options

In addition to district- and university-sponsored internships, California recently instituted two new types of internship credentials. The Individual Internship Certificate (IIC) was adopted in late 2002, and is targeted at those teachers who have demonstrated subject matter competence, but have not completed their pedagogical preparation or fieldwork (CTC, 2003f). Most of these teachers were previously teaching on an emergency permit and were not enrolled in a formal internship program. As its name suggests, the IIC allows teachers to follow an individualized path to completing their credential requirements. Rather than belonging to a cohorted intern program, the IIC holder develops an Individualized Professional Development Plan that outlines the courses, exams, and fieldwork to be completed, and is signed off on by the intern, the district, and their preparation program advisor. IIC holders must be formally enrolled in an accredited teacher preparation program and their employing district must provide a support provider for them. The IIC has helped California boost its rate of compliance with NCLB. To date, approximately 2,600 teachers have taken advantage of this option.

The Early Completion Internship (ECI) allows teachers who are already employed and enrolled in internship programs to bypass their teacher preparation coursework by passing the Foundations of Teaching Assessment (CTC, 2002c). Teachers can take the assessment only one time as part of the ECI option; if they fail, they may complete the full internship program. Alternatively, the program may waive a portion of the preparation coursework if it deems a candidate competent in certain areas. Participants can also have their fieldwork requirements waived by passing the TPA or another comparable assessment of their performance offered by the intern program. To receive a credential via this option, individuals must still demonstrate their subject matter competency via examination or coursework (single subject teachers only). This option was adopted into law in 2001 (SB 57, Scott), and the Foundations of Teaching Assessment was first made available in September 2002. However, not until the summer of 2004 did enough individuals take the test to set passing scores for the multiple subject test, the English/language arts test, and the mathematics test (tests in other subject areas have yet to have enough takers to set passing scores). Before this date, there were not enough candidates who either knew about the option or were interested in pursuing it. Following a 2004 campaign to advertise the option, approximately 400 individuals took the test; passing scores are expected to be announced in December 2004.

These options will increase California's compliance with NCLB, but questions also surround the adequacy of these options for the state's educational needs. California policy-makers should therefore monitor these alternative programs to determine whether they are adequate substitutes for regular university-based pedagogical and subject-matter training.

These concerns specifically apply to IIC option, which may prove to be little more than an emergency permit with a shorter renewal period.

Declining Numbers in Non-NCLB-Compliant Routes

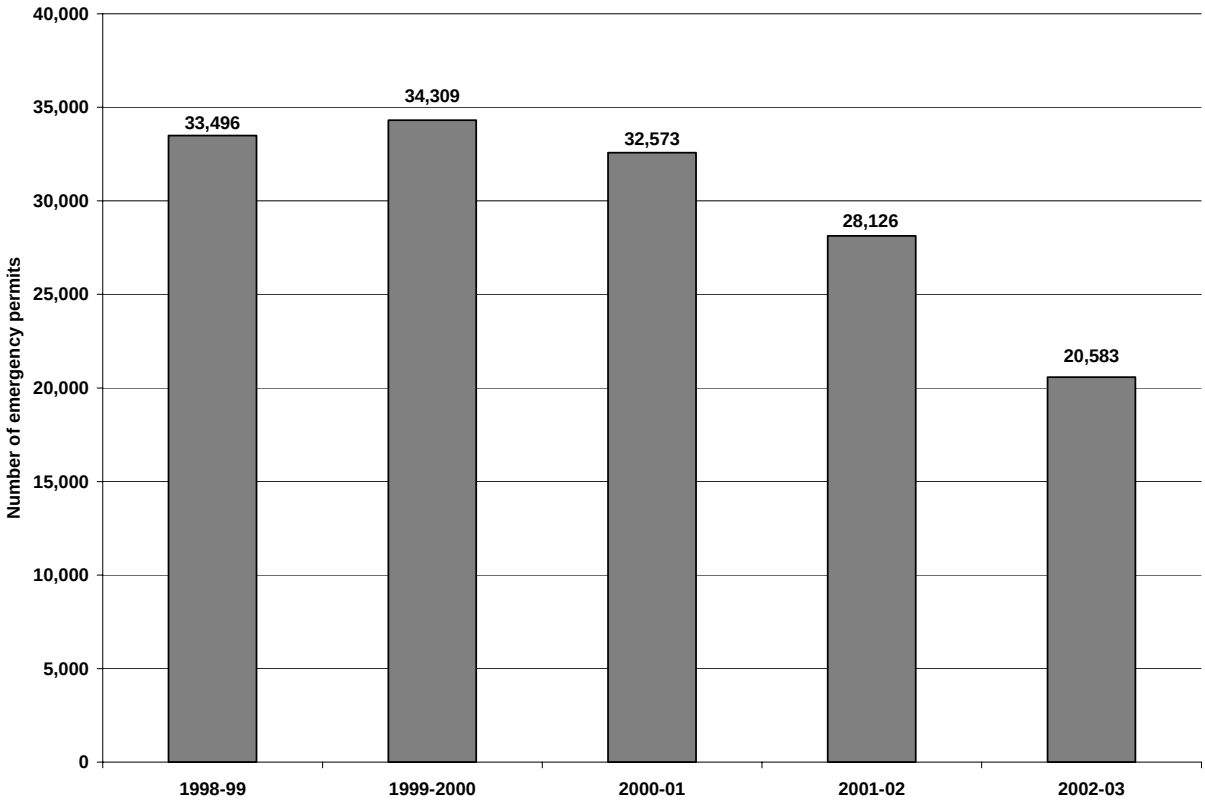
In addition to the NCLB-compliant routes described above, teachers and districts have other options that are not compliant with NCLB (see Exhibit 22 above). These routes are becoming less popular with districts and are increasingly discouraged by the state.

Emergency Permits

Emergency permits are issued to teachers who have not demonstrated subject matter competence or completed teacher preparation. Historically, teachers with emergency permits have been most concentrated in the state's lowest performing schools. Although issuance of emergency permits has been declining since the 1999-2000 peak of more than 34,000 (see Exhibit 30), in 2002-03, the last year for which CTC data are available, about 20,500 emergency permits were issued. That number is expected to continue to decline: CDE data show that approximately 15,000 teachers reported having emergency permits in 2003-04.[9] The decrease in emergency permits is probably due to the overall reduction in hiring new teachers, as districts can be more selective when they need to hire fewer teachers. Also, many teachers on emergency permits have enrolled in intern programs and been redesignated as interns. In 2002-03, more than 1,700 intern credentials were issued to those who had held emergency permits, a 30% increase over the previous year (CTC, 2004a). Much of the movement to intern programs can probably be credited to NCLB and the resulting state pressure on districts to hire only NCLB-compliant teachers.

[9] CTC reports on the number of emergency permits issued each fiscal year, and CDE reports on the number of teachers in the public school system who report having emergency permits each fall. CDE data typically show higher numbers of emergency permits (2% to 27% higher in the past 5 years) than do CTC data. In 2003-04, of the 15,000 teachers reported having an emergency permit, approximately 12,000 reported having only an emergency permit and no other credential.

Exhibit 30
Emergency Permits Issued, 1998-99 to 2002-03



Source: CTC (2004d).
Note: These data indicate the number of emergency permits issued by the state each fiscal year; the numbers are not comparable with those in Exhibit 8, which indicate the various credentials that teachers report having each fall.

Despite declining numbers, emergency permits are still by far the most common document issued to teachers who are not fully qualified. In 2002-03, the most recent year for which CTC data are available, intern credentials were gaining, but still lagged far behind emergency permits. For every intern credential issued in that school year, three emergency permits were issued. A different data source, CDE, suggests that the ratio in 2003-04 was closer to two interns for every three emergency permits issued. Because teachers with emergency permits are not NCLB-compliant, their districts (and the state) are at risk of facing federal sanctions if they are employed in core subject areas after 2005-06. Although California has made rapid gains in compliance with NCLB, much more work clearly remains to be done. At least 60% of the state's underprepared teachers do not have NCLB-compliant credentials and will need to join an intern program or be replaced by NCLB-compliant teachers in the coming school year.

In July 2006, as part of the state's plan for better aligning with NCLB (described above), emergency permits will no longer be issued. Districts that cannot find a fully credentialed teacher or intern will instead apply for a Short-Term Staff Permit or the Provisional Internship Permit, described below.

Short-Term Staff Permit

The Short-Term Staff Permit is intended for unforeseen hires (e.g., those necessitated by a regular staff member's illness or last-minute enrollment adjustments). The permit can also be used as a "bridge document for those who have completed subject matter competency but are unable to enroll in a teacher preparation program" (CTC, 2004g). To obtain a Short Term Staff Permit, candidates will need to have attained a bachelor's degree, passed the CBEST, and acquired 40 units of subject matter content for a multiple-subject permit and 18 units for a single-subject permit. Districts must submit a written justification for the hire, must demonstrate that they made a recruitment effort for a credentialed teacher, and must orient and provide ongoing support to the short-term staff member. This permit is nonrenewable.

Provisional Internship Permit

The Provisional Internship Permit is intended for anticipated staff openings that cannot be filled with a credentialed candidate although a search has been conducted (CTC, 2004g). Districts must submit information confirming a "diligent search" for each permit, except for mathematics, sciences, and special education, which are considered ongoing shortage areas. The candidate requirements for this permit are similar to those for the Short Term Staff Permit, but because the Provisional Internship Permit is intended for longer term employees, it places higher expectations on the hiring district and the candidate to demonstrate progress towards an intern credential. Districts must provide provisional interns with experienced mentors, "supervision and administrative support," and assistance to obtain subject matter competency during the first year of employment. Districts and the teacher must also sign an agreement that outlines steps to demonstrate subject matter competency and enrollment in an internship. This document can be held for no longer than 2 years.

Pre-internships

The Pre-intern program began in 1998 as a transitional program for uncertified teachers intending to enter an intern program. Pre-intern programs offer test preparation and other support to assist teachers in entering an intern program. Because they have not demonstrated subject matter competency, pre-interns are not considered highly qualified under NCLB, and as of 2006 not technically allowed to teach in most classrooms. As a result, state funding for the program diminished from $10.3 million in 2003-04 to $3.5 million in 2004-05, and is expected to be eliminated entirely in fiscal year 2005-06 (see Exhibit 31). The 2004-05 allocation is intended to serve only second-year pre-interns.

Exhibit 31
Pre-intern Program Participation and Funding, 1998-99 to 2004-05

Fiscal year	Number of Funded Programs	Number of Pre-interns Served	Number of Districts Involved	Funding (in millions)
1998-99	18	955	41	$2.0
1999-2000	43	5,800	316	$11.8
2000-01	59	7,694	330	$11.8
2001-02	69	9,868	410	$11.8
2002-03	58	9,092	NA	$17.7
2003-04	48	4,895	NA	$10.3
2004-05	NA	NA	NA	$3.5

Sources: CTC (2001d, 2001e, 2003d, & 2004e).

Waivers

Waivers are yet another type of document issued to individuals who are not fully credentialed and do not meet one of the requirements for an emergency permit, such as passing CBEST. Of all the options available to teachers, the waiver is furthest from compliance with NCLB. After climbing to more than 3,600 in 1996-97, the number of waivers fell to around 1,100 in 2002-03 (CTC, 2004a). Given the increased scrutiny of credentialing practices under NCLB, CTC may seek to change or eliminate the waiver option in the future.

In general, non-NCLB-compliant authorizations are on the decline. Emergency permits, pre-internships, and waivers are all decreasing in number. However, they have not been eliminated: Emergency permits are still issued considerably more often than intern credentials. Although eliminating emergency permits is planned, they will be replaced with similar options for districts that need to hire uncredentialed teachers.

Conclusions

The outlook for teacher preparation and quality in California is mixed. On one hand, California can boast of increased compliance with NCLB and of having a more "highly qualified" workforce according to the federal legislation. On the other hand, the state needs to acknowledge the limitations of progress to date: Thousands of teachers are still not compliant with NCLB. And although the workforce today has more NCLB-compliant teachers than it did a few years ago, much of this change is due to growth in intern program enrollment.

Looking ahead, two areas of concern are the recent decline in the issuance of regular preliminary credentials and the declining CSU enrollment in regular credential programs. Moreover, the state must continue to emphasize improved teacher quality. In this regard, the TPA serves as a legislated assessment of pedagogical skill, but it has not been adequately funded.

As the state continues to focus on the quantity and quality of teachers being prepared to staff California's schools, it will also need to focus on the knowledge and skills that teachers acquire—both in the first few years in the profession and throughout their careers. Chapter 4 addresses these issues.

Chapter 4. Teacher Induction and Professional Development

Budget

- After several years of funding reductions (from $222 million in 2000-01 to about $62 million in 2003-04), the budget for professional development for selected major state programs has remained stable over the past 2 years at $63 million.
- The Governor signed legislation establishing a new set of teacher-related block grants and ceding more control over the grants to local school districts. AB 825 (Firebaugh) combines 22 categorical programs into 6 block grants, including the Teacher Credentialing Block Grant ($80.9 million for 2004-05), and the Professional Development Block Grant ($239 million for 2004-05).

Induction

- The state has remained committed to providing new teachers with induction support. Funding for BTSA, the state's formal induction program, has remained steady since 2000-01.
- The consistent, high-quality support that underprepared teachers need during their initial years in the profession is often unavailable until they receive a credential years later. By that time, however, the support may no longer be relevant to their professional needs.

Professional Development

- Curriculum-based professional development programs have offered a more coherent and uniform instructional approach for teachers, but these efforts have mainly targeted literacy and mathematics, with focus on elementary school teachers.
- In light of the expected increase in the number of middle and high school students, as well as the state's adoption of the CAHSEE as a graduation requirement, professional development programs and spending are not sufficiently aligned with the training needs of secondary teachers.
- Federal funds and policies have expanded the emphasis and purpose of CSMPs to include helping the state meet the goals and requirements of NCLB.

Through induction and professional development programs, California has sought to improve the quality of its teachers and prepare them to meet the challenges of a higher-stakes accountability system and an increasingly diverse student population. However, the state has had to struggle to provide coherent and meaningful assistance and training to all teachers, particularly in regard to professional development. Given the many local, regional, state, federal, and independent programs operating in California, providing teachers with unified expectations and effective instructional practices has proved difficult. State policy-makers have addressed this issue by seeking to make mathematics and literacy instruction in the early grades more coherent. However, other areas in the state's professional development system have not received this focus.

Induction policy has been funded fairly consistently in recent years, and is unlikely to undergo major changes in 2004-05. Nonetheless, several key issues surround induction in California, including how, in a time of fiscal restraint, to support teachers going through alternative certification programs, how to make the state's BTSA program meaningful to recently credentialed teachers who have been in the profession for several years, and how to align the requirements of intern and induction programs. Looking ahead, California's policy-makers will need to consider how to achieve balance—in terms of funding, content emphasis, and grade focus—for the state's teacher induction and professional development initiatives.

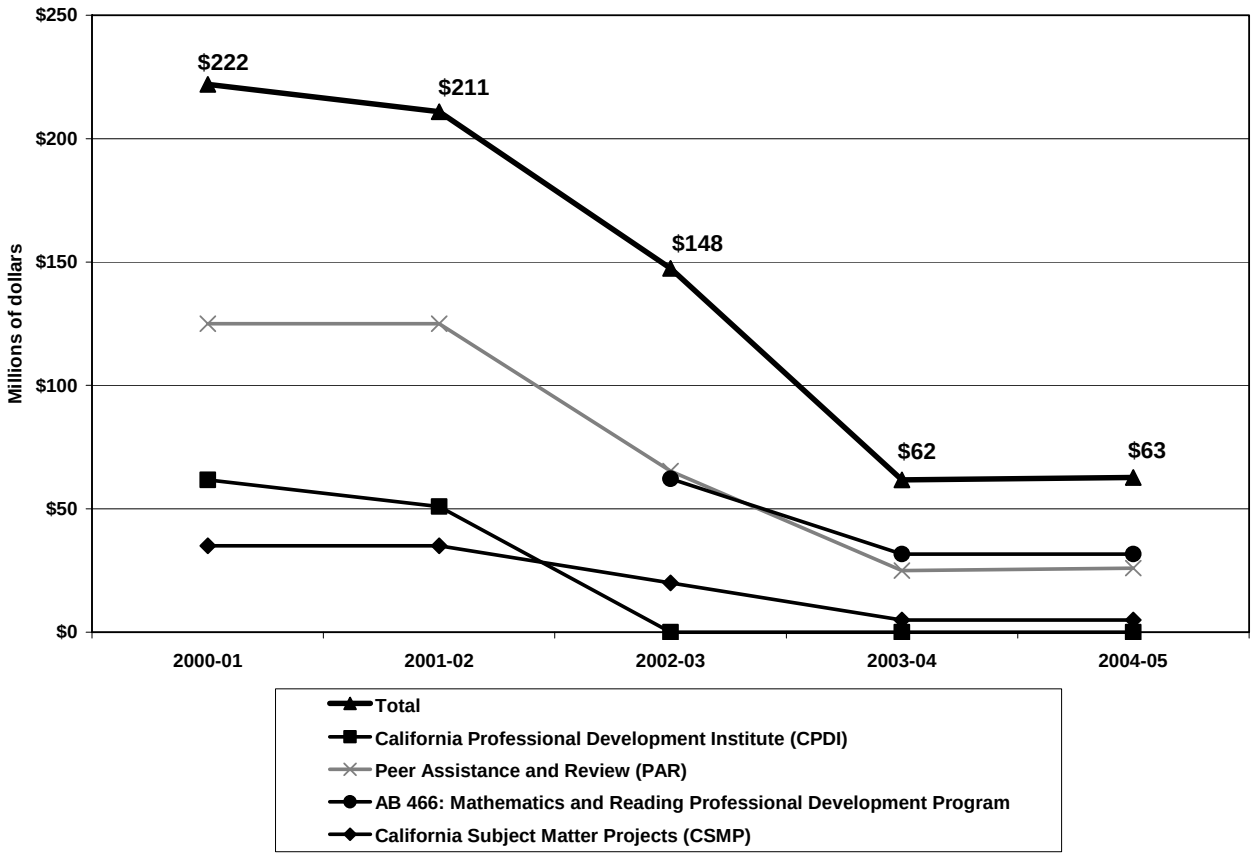
This chapter begins with an overview of funding for professional development and induction in California, provides an update on BTSA, and discusses the challenges facing that program. We then provide policy, funding, and participation updates for major state and federal professional development programs. The chapter concludes with a brief examination of three key trends in the state's professional development programs.

Overview of Teacher Development Funding in California

During the boom years of the late 1990s, support for professional development programs garnered widespread political and financial support in Sacramento. Many of the state's newer initiatives owe their existence to the ready supply of funds during this period. Over the past several years, however, the weak economy has significantly reduced the budgets and goals of these programs. For example, one state professional development program, CPDI, had its funding eliminated, and other programs have seen their budgets reduced to only a fraction of what they once were. Programs left intact have accommodated themselves during the lean years, some by leveraging funds from external sources, like the federal government, to sustain, restore, or augment their services.

For 2004-05, California's professional development budget appears to have stabilized at this reduced level, and state programs will, apart from cost of living adjustments, maintain 2003-04 funding levels. Four of the five major professional development programs underwent a collective reduction in their budgets from $222 million in 2000-01 to about $62 million in 2003-04, which will remain nearly consistent for 2004-05 (see Exhibit 32). Only ITSDR has maintained a relatively consistent level of support. Federal programs, meanwhile, will see slight increases in funding levels from the 2003-04 fiscal year. For 2004-05, Reading First will receive $146 million, and California Mathematics and Science Partnership Program (CaMSP) will operate with a $20 million budget and the Teacher and Principal Training and Recruiting Fund will receive $324 million (although not all of that amount will be spent on professional development) (CDE, 2004j, 2004k, & 2004l; UCOP, 2004).

Exhibit 32
State Allocations for Select Professional Development Programs, 2000-01 to 2004-05

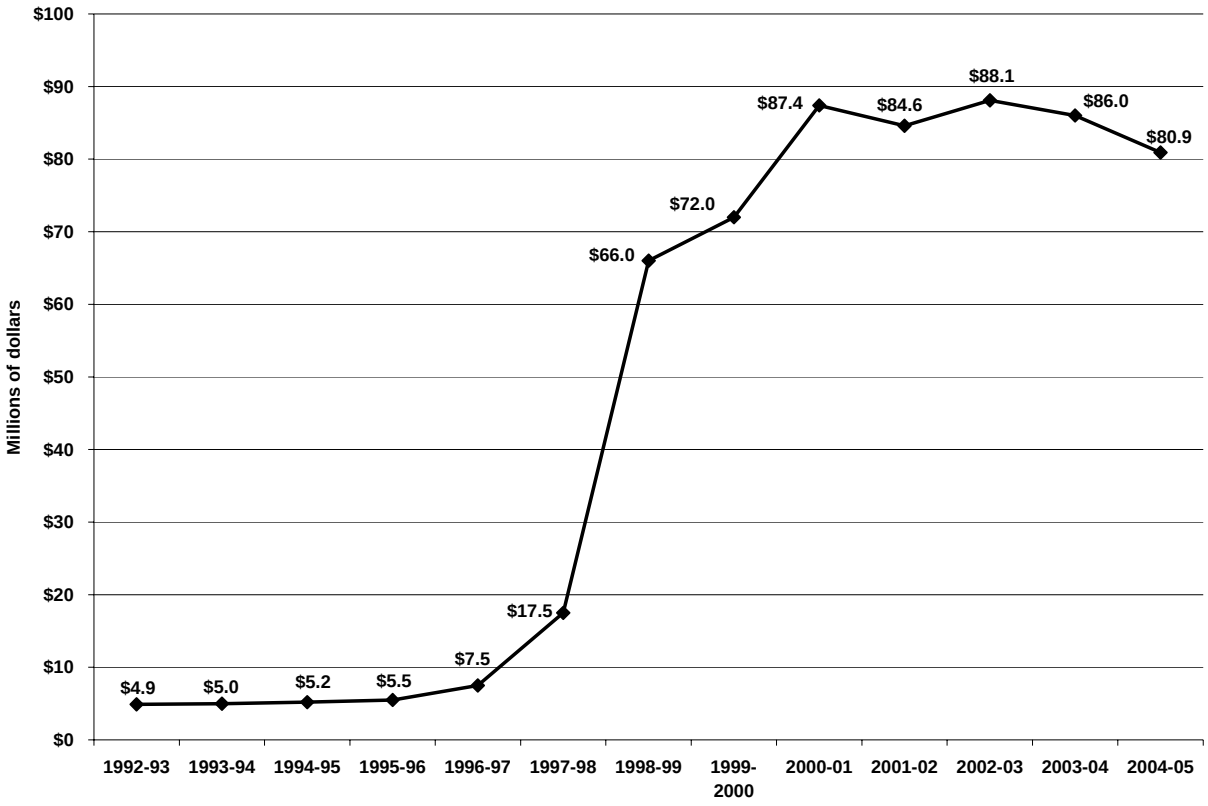


Sources: (CDE, 2004j, 2004l, & 2004l; UCOP, 2004).
Note: For AB 466, $31.7 million was allocated in 2001-02 but none of the allocation was spent.

On the other hand, the budget for BTSA, the state's formal induction program for fully credentialed beginning teachers, has held fairly steady since 2000-01. The budget, which peaked at $88.1 million in 2002-03, has since experienced a moderate decline (see Exhibit 33) as the number of new teachers entering the profession continues to fall. The 2004-05 budget reduces BTSA's allocation to $80.9 million, or $3,526 per eligible teacher.[10]

[10] BTSA requires an additional $2,000 in matching or in-kind funds from districts for each participating teacher.

Exhibit 33
Funding for the BTSA Program, 1992-93 to 2004-05



Sources: CTC (2003g), CDOF (2003 & 2004c).

Teacher Induction in California

Through its longstanding BTSA program, California has led the nation in support for fully credentialed new teachers. Designed to ease the entry of new teachers into the profession, local BTSA programs typically include the assignment of a more experienced mentor to a new teacher and may involve a series of other supports, such as orientation meetings, time to meet with colleagues, formative assessment, and targeted professional development. BTSA has gone from a relatively small program to an institutionalized part of the state's strategy to improve the quality of teaching and reduce teacher attrition.

BTSA: Program Description and Update

The BTSA program was enacted by SB 1422 (Bergeson) in 1992, and strengthened in 1998 by SB 2042 (Alpert), legislation that instituted standards of quality for induction programs and required teachers to complete a 2-year induction program to earn the professional clear credential. SB 2042 also made the employing district responsible for ensuring induction support for beginning teachers and for recommending teachers for the professional clear credential. To date, all 148 BTSA programs have been approved under SB 2042 standards.

The cornerstone of BTSA is a formative assessment of teaching practice that is aligned with CSTP and is known as the California Formative Assessment and Support System for Teachers (CFASST). In addition to CFASST, BTSA programs provide beginning teachers with individualized induction support from experienced teachers and with professional development workshops and seminars on classroom management and instruction.

Recent legislation signed by the Governor (AB 2210, Liu) further clarifies that completion of an induction program is the "required route" to earn a professional clear credential (CTC, 2004k). Currently, the state provides teachers with two options to earn the professional clear—completion of a SB 2042-approved induction program or of an approved "fifth year" of study.[11] AB 2210 specifies that the fifth-year option will fulfill the induction program requirement *only* if the employing district verifies that an approved induction program is unavailable to a beginning teacher.

Participation in the BTSA program has declined somewhat after years of rapid growth (see Exhibit 34). Participation grew in the late 1990s as the program expanded, peaking in 2000-01 with approximately 24,000 new teachers. In 2003-04, about 20,000 beginning teachers were served. Over the last 5 years, the program has served between 20,000 and 24,000 new teachers each year. The decline in BTSA participation has probably resulted from the decrease in the overall number of beginning teachers in California. Since 2000-01, the number of first- and second-year teachers has declined more than 25%, from 46,000 new teachers to 33,500 new teachers in 2003-04.

[11] The fifth-year of study requires a minimum of 30 semester units beyond the bachelor's degree and the teaching credential program (e.g., a master's degree) and must include advanced study in health education, teaching special populations, computer technology, and, after July 1, 2005, teaching ELLs. The advanced coursework must be taken after the issuance of the preliminary credential.

Exhibit 34
BTSA Participation, 1992-93 to 2004-05

School Year	Number of Programs	Estimated Number of New Teachers Supported
1992-93	15	1,100
1993-94	30	2,300
1994-95	30	1,900
1995-96	30	1,900
1996-97	34	2,166
1997-98	73	4,118
1998-99	86	12,330
1999-2000	133	22,156
2000-01	146	24,186
2001-02	145	22,253
2002-03	145	21,064
2003-04	149	20,339
2004-05	148	NA

Sources: Bartell & Ownby (1994); CTC (1998b & 2001b); CDE (2003i & 2004i); Hickey (2003); Mitchell & Boyns (2002).

As noted, BTSA is designed primarily for fully credentialed first- and second-year teachers, those who have been through "traditional" preparation. However, in 2003-04, nearly 10,000 first- and second-year teachers, accounting for 30% of all beginning teachers, lacked full credentials. Although the state now has fewer underprepared beginning teachers than in previous years,[12] almost one-third of all first- and second-year teachers are ineligible for BTSA. These beginning teachers, who enter the profession with emergency permits, pre-interns certificates, or intern credentials, may receive some amount of induction support while they are teaching, but typically far less than the support offered to beginning teachers who participate in BTSA. In addition, the support that underprepared teachers need during their initial years is often unavailable until they receive a credential years later; by that time, however, the support may no longer be relevant to their professional needs. We discuss these challenges in greater detail below.

[12] In the late 1990s, nearly half of all beginning teachers were underprepared.

Key Challenge of the BTSA Program: Meeting the Needs of a Diverse Workforce

Although recent legislative enactments have strengthened the role of new teacher induction in the state's "Learning to Teach" continuum and reinforced California's commitment to improving teacher quality and retention, the state still has critical gaps that must be filled to meet the needs of its diverse teaching workforce.

As a group, beginning teachers receive a broad range of induction-related support, regardless of whether or not they participate in BTSA. This can include the formal assignment of a mentor teacher, regular meetings with other new teachers, or opportunities to observe or be observed by colleagues. However, our previous research suggests that teachers who participate in BTSA receive more frequent and intensive support than teachers who do not participate in BTSA. For example, teachers participating in the state's pre-intern or intern programs may be assigned a "mentor," but the contact is often infrequent and limited to guidance on paperwork, rules, and procedures, not instructional practice (Shields et al, 2003). They do not receive the same level of structured support and formative assessment as BTSA participants. Teachers with emergency permits, if they are not part of any formal program, may not receive any support at all. Since underprepared teachers typically work in some of the state's lowest-performing schools with some of the highest-need students, their need for the type of assistance BTSA offers equals or perhaps surpasses that being offered to fully-credentialed teachers working in higher-performing schools. Providing strong instructional support to underprepared teachers in low-performing schools is of critical importance, especially with current state and federal accountability measures focusing so much attention on the academic performance and improvement of these schools.

Moreover, underprepared teachers become eligible for BTSA only after they have earned their credential, although they may have many years of teaching experience. Consequently, by the time the teachers attain BTSA eligibility, the support they then receive and the requirements they must fulfill will most likely no longer be relevant or meaningful to them.

Matching induction support to teachers' needs is a particular challenge for the state's intern programs. As intern programs become an institutionalized solution to teacher shortages in California, particularly in the wake of federal law that considers interns "highly qualified," and induction programs become the path to earning the professional clear credential, the state must align the two programs to ensure a seamless transition. The LAUSD Intern Program, which began in 1984 and has recommended nearly 7,000 teachers for their professional clear credential, may serve as a model for other intern programs in the state that are trying to meet the multiple needs of individuals who earn their credential while teaching (LAUSD, n.d.). The program has combined teacher preparation and induction into a 3-year sequence aligned with the state's teaching standards so that interns can earn a professional clear credential in 3 years. This approach ensures that teachers receive the appropriate amount of support when they need it, without overlapping and cumbersome program requirements.

Another ongoing challenge for BTSA is providing all new teachers with high-quality mentors and support providers, particularly in schools and districts that have shortages of experienced, accomplished teachers. With an inadequate supply of experienced teachers, district and school administrators must be less selective about whom they choose as mentors.

In addition, finding mentors who are appropriately matched to new teachers by grade level, subject area, and/or even school site can be difficult.

Clearly it will be a challenge for the state to ensure that every beginning teacher receives appropriate, relevant, high-quality induction support. Fortunately, the groundwork has been laid: BTSA is a well-established, full-scale program that has had committed funding from the state thus far.

Professional Development in California

Whereas induction focuses on the needs of newly credentialed teachers as they transition into the profession, professional development seeks to improve the instructional skills of both beginning and experienced teachers. California's policy-makers, understanding the need to keep the state's teaching force prepared to meet the challenges of a constantly changing world and shifting student demographics, have developed and implemented programs designed to accomplish that task. The next three sections describe the major state and federal teacher training initiatives. A discussion of statewide trends in professional development follows.

Subject Matter Professional Development Programs

For more than a decade, California's policy-makers have dedicated millions of dollars to professional development in specific subjects. The state's creation and support of the CSMPs and the CPDI attest to the importance it places on professional development that focuses on specific content areas. However, professional development funding has been slashed in recent years. Funding from NCLB and the California Mathematics and Science Partnership has only partially offset those reductions.

Subject matter professional development programs, their funding, and participation are described below.

California Subject Matter Projects (CSMPs): Program Description and Update

State policy-makers established the CSMPs in 1988 with reauthorization in 1998 under a new organizational structure. Under the aegis of UC's Office of the President (UCOP), these projects aim to improve teachers' content knowledge in nine subject areas—writing, reading and literature, mathematics, science, history and social studies, foreign language, physical education and health, the arts, and international studies—and develop teacher leaders.

In recent years, the CSMPs have emphasized greater alignment with California's content standards, a team approach to training teachers, partnering with low-performing schools and districts, provision of content-based literacy activities to teachers of ELLs. The nine projects conduct intensive summer institutes and provide follow-up activities during the school year. As noted above, the projects will also provide technical assistance to low-performing schools and teachers who do not meet the "highly-qualified" teacher standard.

Following 2 years of state funding of $35 million, the CSMPs' operating budgets were reduced to $20 million in the 2002-03 budget. An additional $4.4 million in federal Title II funds was designated for the California Science Project in 2002-03 (see Exhibit 35). When the state budget for the CSMPs was reduced to $5 million in 2003-04, UCOP asked the CSMP directors to identify sites that were successfully securing funds from external sources; sites that were unable to do so no longer received state funding (UCOP, 2004).

Exhibit 35
CSMP Funding and Participation, 1999-2000 to 2004-05

Year	Funding (in millions)	Number of Participants
1999–2000	$15	11,500
2000–01	$35	25,000
2001–02	$35	25,000
2002–03	$20	39,722
2003-04	$9.4 (includes $4.4 in federal funds)	42,508
2004-05	$9.4 (includes $4.4 in federal funds)	NA

Source: UCOP (2004).

California Professional Development Institutes (CPDIs): Program Description and Update

In 2000, policy-makers established a number of CPDIs under AB 2881 (Wright). During their years of operation, UCOP ran the CPDIs, and they offered teacher training in reading, mathematics, and English language development through summer institutes and follow-up activities. They were to give priority to teachers from schools that scored in the 40th percentile or lower on the state's API.

In 2002-03, CPDI funding was eliminated, with the last of existing funds to be spent in 2003-04. As originally established, the CPDIs no longer function. Although some former CPDIs may still be providing professional development with AB 466 funds, they are no longer associated with UCOP (UCOP, 2004).

During the 3 years of their existence, the CPDIs allowed the CSMPs (which housed some of the CPDIs) to build new capacity and expand relationships in reading and mathematics professional development. They also helped the CSMPs establish networks and programs needed to remain viable in this difficult funding environment (UCOP, 2004).

Title II, Part B—California Mathematics and Science Partnership Program (CaMSP): Program Description and Update

In 2002, Title II, Part B, of NCLB authorized the creation of CaMSP. This competitive grant program allows districts serving high-need student populations to partner with IHEs to improve student achievement in mathematics and science. Recipients of the grant funds must use the money for California state standards-based professional development of mathematics teachers in grades 5 through 9 and science teachers in grades 4 through 8.

Valid partnerships must involve a high-need district and an engineering, mathematics, or science department of an IHE. The goal of partnering with mathematics, science, and engineering departments is to improve the content knowledge of teachers in those fields (CDE, 2004l).

Funded projects are pursuing activities that include developing instructional materials and lesson study collaborations. Most of the 17 districts and 2,800 teachers participating in the

first round of CaMSP professional development projects have a coaching support system at their core.

Because funding was late for the 2002-03 school year, the program used those funds ($13-14 million) for 2003-04. For 2004-05 the state will use the $20.3 million allocated for 2003-04 (CDE, 2004l) (see Exhibit 36). With an increased amount of funding to be spent in 2004-05, the state is expecting a larger number of participants (CDE, 2004l).

Exhibit 36
CaMSP Funding and Participation, 2002-03 to 2004-05

Year	Funding (in millions)	Number of Participants
2002-03	$13-14 allotted, $0 spent	0
2003-04	$20.3 allotted, but spent 2002-03 funds instead ($13-14)	2,800
2004-05	Planning to spend 2003-04 funds ($20.3)	NA

Source: CDE (2004l).

Curriculum-Focused Professional Development

Along with the subject matter professional development delineated above, state and federal policies have increased the emphasis on curriculum-focused professional development. California's Mathematics and Reading Professional Development Program (MRPDP) and the federal Reading First program, for example, emphasize specific state-adopted reading and mathematics curricula in the early grades.

The curriculum-focused professional development programs, their funding, and teacher participation are described below.

Mathematics and Reading Professional Development Program (MRPDP): Program Description and Update

AB 466 (Strom-Martin, Shelley) established MRPDP in 2001-02 to reimburse districts for professional development undertaken by teachers of reading and mathematics. Schools designated as high-priority or low-performing schools are required to provide professional development for their reading/language arts and mathematics teachers. Only providers approved by the California State Board of Education can provide training. The program includes participation in a summer institute, and training during the school year that is specific to teachers' grade levels and their school's curricular adoption (CDE, 2004k).

MRPDP is a 5-year program, with districts reimbursed at $2,500 per trained teacher and $1,000 per paraprofessional per year. In 2001-02, the state allocated $31.7 million to districts for the program but that money was not spent because few districts were prepared to provide training during the first year. The 2002-03 budget allocated $63.5 million for the program—essentially 2 years' worth of funding. In 2003-04, the state received requests for an additional $2 to $4 million from districts for funding above the $31.7 million appropriated for the program. The program will be funded at $31.7 million again for the 2004-05 fiscal year (see Exhibit 37) (CDE, 2004k).

Exhibit 37
MRPDP Funding, 2001-02 to 2004-05

Year	Funding (in millions)
2001–02	$31.7 allocated, (No funds spent)
2002–03	$63.5 allocated (2 year's worth of funding)
2003-04	$31.7 plus an additional $2-4 million requested by districts and granted
2004-05	$31.7

Source: CDE (2004k).

Because of budget limitations, not all teachers for whom training has been requested will be trained using program funds, although some of those teachers may receive similar professional development through the federal Reading First program instead. The legislation specifies that districts should prioritize training for those teachers who have not participated in a CPDI and those who teach in low-performing schools (CDE, 2004k).

Reading First: Program Description and Update

Reading First was enacted in 2002 as part of Title I, Part B of NCLB. AB 65 (Strom-Martin, 2002) established the Reading First Plan for California and authorized spending for it. Reading First provides subgrants to districts for improving the reading of students in grades K—3 and special education students in all grades. Districts provide teachers with training that is specific to their grade level and the instructional program that their school has adopted. Administrators must also be provided program-related professional development as part of the Principal Training Program, enacted by AB 75. Starting in 2003, bilingual classroom teachers could also participate in Reading First-funded professional development (enacted by AB 1485).

California's Reading First implementation plan consists of the California Technical Assistance Center (CTAC) and nine Regional Technical Assistance Centers (RTACs) to provide technical assistance to Reading First grantees. Regional Reading Implementation Centers (RICs), supported by Reading First and MRPDP funds, are responsible for delivering professional development for the two programs (CDE, 2004j).

For the first 2 years of the program, districts received $6,500 each year for each eligible teacher in each qualifying school, an amount that supports professional development costs (estimated at $1,000 for each teacher stipend and $1,500 per teacher in training costs); the balance will be used for purchase of assessment and reading materials, and other costs such as paying reading coaches. For 2004-05, the amount per teacher will be increased to $8,000 to fund additional activities aimed at reducing the number of unnecessary referrals of students to special education. (CDE, 2004k). The increased funding comes from money remaining from 2002-03 and 2003-04.

For each district that receives a Reading First subgrant, the state funds half of its schools. Federal Reading First legislation requires that funds go to schools that have the highest numbers or percentages of K-3 students reading below grade level, and that are identified as needing improvement and serving children in poverty. California had $131.6 million to spend

on Reading First in 2002-03 and is projected to receive $871 million over the next 6 years (see Exhibit 38). The state also received a supplemental grant in 2002-03 of $4 million. Funding in 2003-04 increased to $142.8 million from nearly $132 million, due to heightened federal support for the program. Not all of the money was spent in 2002-03 ($16.5 million) or in 2003-04 ($12.8 million). The 2004-05 budget is expected to be $146 million, excluding the nearly $30 million from the two previous years (CDE, 2004k).

Exhibit 38
Reading First Funding, 2002-03 to 2004-05

Year	Funding (in millions)
2002-03	$131.6
2003-04	$142.8
2004-05	$146

Source: CDE (2004k).

District-Controlled Professional Development

Most state and federal professional development funds are allocated to districts, and the decision about how to spend the money is largely left to the districts. PAR, ITSDR, and the federal Teacher and Principal Training and Recruiting Fund, encompass a range of activities and programs for improving teacher quality at the local level. Because none of these programs includes evaluation provisions, it is not possible to determine how they affect teacher quality in the state, gauge how meaningful they are to teachers, or ascertain whether they are congruent with the professional development opportunities offered in the state.

The district-level professional development programs, their funding, and participation are described below.

Peer Assistance and Review (PAR): Program Description and Update

AB X1 (Villaraigosa) established PAR in 1999 to fund master teachers who help colleagues overcome unsatisfactory ratings on their personnel evaluations by improving their instructional practices. PAR funds can also be used to support districts' BTSA programs, activities previously funded under the Mentor Teacher Program, or any activities that support or train new teachers. Although most districts participate in PAR, the state does not maintain detailed information about the number or type of teachers who receive assistance through the program (CDE, 2004j).

To be eligible for PAR funding, each district and its local bargaining unit had to reach agreement and submit an application for the money by specified dates. PAR was initially funded at $125 million, and local programs, depending on when they implemented their PAR program, received either $8,700 or $6,900 for each of 20 full-time credentialed teachers (see Exhibit 39). Program funds at the state level were pared to $87 million in 2002-03, probably resulting in reduced allocations per teacher. Slightly more than $60 million more was cut from the budget in 2003-04. For 2004-05, PAR received a negligible increase in its budget (CDE, 2004j).

Exhibit 39
PAR Funding, 2000-01 to 2004-05

Year	Funding (in millions)
2000–01	$125
2001–02	$125
2002–03	$87
2003-04	$25.2
2004-05	$26

Source: CDE (2004j).

Instructional Time and Staff Development Program (ITSDR): Program Description and Update

Designed to improve student achievement in the core curriculum areas, ITSDR reimburses districts for training teachers and paraprofessionals in subject matter knowledge, teaching strategies, classroom management, conflict resolution, and other topics. The state pays the district for the time of each eligible faculty or staff member who participates in the professional development, up to a maximum of 3 days (CDE, 2004j).

ITSDR is the largest source of state professional development funding available. More than 1,000 districts take advantage of the program annually. To be eligible, districts had to certify a PAR program by July 1, 2001. For 2003-04, the budget for ITSDR was $229.7 million, unchanged from the previous year. For 2004-05, the program will be allocated $237 million (see Exhibit 40) (CDE, 2004j).

Exhibit 40
ITSDR Funding, 2003-04 and 2004-05

Year	Funding (in millions)
2003-04	$229.7
2004-05	$237

Source: CDE (2004j).

Title II, Part A—Teacher and Principal Training and Recruiting Fund: Program Description and Update

In 2002, NCLB instituted the Teacher and Principal Training and Recruiting Fund. This fund provides grants to states and subgrants to districts and eligible partnerships for a variety of activities to improve teacher quality and raise student achievement in core subject areas. The funding can be used to prepare, recruit, induct, and train teachers.

When NCLB passed, the federal government placed the existing Eisenhower Professional Development Program and CSR programs under Title II, added flexibility, and provided $100 million in additional funding. The first priority is to use the money for professional development. To carry out proposed activities, program funds must supplement,

and not supplant, existing funds. This program was funded at $315 million in 2002-03 and $321 million in 2003-04 (see Exhibit 41). CSR is likely to account for about $175 million of the $324.4 million for 2004-05, with about half going to the other approved activities (CDE, 2004l).

Exhibit 41
Funding for the Teacher and Principal Training and Recruiting Fund, 2002-03 to 2004-05

Year	Funding (in millions)
2002–03	$315
2003-04	$321
2004-05	$324.4

Source: CDE (2004l).

To receive a subgrant, districts must perform a local needs assessment and submit an application to CDE. Applicants may use funds to provide professional development activities; support initiatives to recruit, hire, and retain teachers; provide induction activities; implement class-size reduction; and conduct other activities designed to enhance teacher quality and increase student achievement (CDE, 2004l).

Districts must detail how their plan aligns with state content standards and explain how it will have a measurable impact on student achievement. All strategies must include plans for districtwide and school site-specific professional development. In addition, eligible partnerships between districts, institutes of higher education and other educational agencies can apply to CDE for a subgrant. Funds secured can be employed to support professional development and technical assistance activities that improve teacher quality (CDE, 2004l).

Districts are required to show progress toward increasing the number of "highly qualified" teachers and the number of teachers receiving "high-quality" professional development, as defined by NCLB. No evaluation of the program is required. Districts do not need to report whether they used the money for professional development, recruitment, or other activities (CDE, 2004l).

Key Trends for California's Professional Development Programs

Each of the programs described above has contributed to or been affected by three key professional development trends in California. Two of the trends—the specific content and grade-level focus of some professional development programs and the growing convergence of federal and state policies—are relatively recent developments, whereas the third, local control over professional development spending, has been a factor for many years. This section examines each of the trends in turn.

Content and Grade-Level Focus of Professional Development in California

Some of the curriculum-based programs (those providing training for specific state-adopted curricula) have proved a mixed-blessing for the state's policy-makers and teachers.

By offering relatively long and intense professional development, with follow-up, rather than an array of disconnected workshops, training has assumed some of the characteristics of high-quality professional development (e.g., see Bransford, Brown, & Cocking, 1999; Corcoran, 1995; Darling-Hammond & McLaughlin, 1995; Garet et al., 1999; Little, 1993). Although the professional development programs, particularly MRPDP and Reading First, have provided a more coherent and uniform instructional approach for teachers, these efforts have been limited to literacy and mathematics with an emphasis on the early grades. Improving coherence across the state's schools, particularly low-performing ones, has also resulted in a focus on the needs of underprepared teachers and a narrow instructional focus on subjects, particularly in the primary grades, used to calculate state API scores and federal measures of Adequate Yearly Progress (AYP). Although this emphasis may have been chosen to provide students with a strong foundation in core subjects, elementary teachers are also responsible for teaching art, social science/history, health, and physical education to their students. Without sufficient professional development opportunities, their capacity to teach these subjects and maintain an understanding of recent developments in these fields may be decidedly constrained. In addition, the focus on the primary grades leaves high school teachers with comparably less state-funded professional development specifically targeted toward meeting their needs or those of their students transitioning into the workplace or higher education. Given the expected increase in the number of secondary students and the augmented accountability requirements, high school teachers may be less prepared to help students achieve their immediate and future academic goals.

Growing Convergence of Federal and State Professional Development Policy

In 2002-03, funding for the CPDIs was eliminated, leaving the CSMPs as the lone state-run subject matter professional development program. (This type of program provides teacher training in specific subject areas.) As mentioned, the CSMPs have been hit hard by the state budget cuts. To some degree, they have had those losses ameliorated by NCLB funding. The CSMPs will receive $4.4 million in NCLB Title II funds (and $5 million from the state) for 2004-05, the same amount they received in 2003-04 (UCOP, 2004). Such assistance imposes restrictions on, and requirements for, how the money can be spent. The federal government's expectations, however, complement the work CSMPs had been undertaking for several years, including providing content-rich professional development, supplying technical assistance to high-need districts, and partnering with low-performing districts. Many of these activities were developed in response to the state's rigorous accountability measures and target the same population as NCLB.

The federal money is intended to provide resources for two purposes: First, it will provide professional development and training programs for teachers who need to achieve "highly qualified" status; doing so entails preparing underprepared teachers for CSET tests, and providing and documenting professional development participation so that veteran teachers can become "highly qualified" under HOUSSE. As the number of underprepared teachers in the state continues to decline, the amount of CSET test preparation provided by the CSMPs should decrease as well. Likewise, because veteran teachers need participate in HOUSSE only once, this component, too, should become less of a factor over time. Currently, it is not clear to what degree those two activities will affect future operations of the CSMPs. Second, NCLB funds will help the CSMPs serve and support schools that have missed the AYP targets. To

achieve those goals, the projects provide technical assistance to help schools conceptualize their needs assessments by reviewing and analyzing school and grade level data. Although the format that the CSMPs will offer for many of the activities (apart from test preparation and HOUSSE) will differ little from those provided in previous years, they will have an expanded emphasis and purpose—satisfying the requirements outlined in NCLB (UCOP, 2004).

Locally Controlled Professional Development in California

In 2004, the Governor signed legislation establishing a professional development block grant and giving more control to districts. AB 825 (Firebaugh) combines 22 categorical programs into the 6 block grants—a pupil retention block grant, a school safety consolidated competitive grant, a teacher credentialing block grant, a professional development block grant, a new targeted instructional improvement block grant, and a school library improvement block grant. The teacher credentialing block grant affects only BTSA ($80.9 million for 2004-05), whereas the professional development block grant includes ITSDR, the TAP block grant program (this program has not been funded since 2002-03, however), and intersegmental programs (a combined total of $239 million for 2004-05). This change will give school districts more control over how professional development and teacher credentialing money is spent. All of the categorical programs included in the new block grants will cease operating July 1, 2005 and (with certain, still to be determined, exceptions) will be repealed on January 1, 2006.

The new legislation includes both fiscal flexibility and restrictions for districts. The final version of the bill allows a district or county office of education to transfer up to 15% of the amounts apportioned for the Professional Development Block Grant to any other block grant or categorical program (including special education, home-to-school transportation, and K-3 class size reduction). AB 825 prohibits funds from being transferred out of the Teacher Credentialing Block Grant. Because decision-making will rest with the local districts, and because their needs and goals often vary widely, the kinds of professional development or induction services the block grants will support remain uncertain. In any case, because this new funding arrangement does not add accountability for, or reporting on, how the funds are spent, it will be difficult to gauge if or how the change affects the quality of professional development for teachers.

Conclusions

The budget for professional development appears to have at least temporarily stabilized, but policy-makers continue to face a host of challenges as they craft teacher development programs to improve the quality of California's beginning and experienced teachers. The BTSA program is well-established and broad in scope, but the state's induction strategy requires that a substantial subset of experienced teachers who have just received credentials meet the state's requirements for beginning teachers. California's curriculum-based programs, meanwhile, have added coherence to the state's professional development strategy, but have not expanded beyond the early grades. As a result, secondary teachers and teachers of subjects other than literacy and elementary mathematics do not benefit to the same degree as their peers in the primary grades from the state's considerable investment. Federal funds are becoming increasingly important to California, but are often targeted at just a few subjects and grade levels. Finally, hundreds of millions of state and federal dollars are controlled by local districts, which can spend them on a variety of activities and priorities. Because of a lack of follow-up reporting or evaluation, little is known about how these funds are spent and whether or not they make a difference in teacher quality.

Resolving these issues will be difficult, given external and internal policies and funding pressures. Nonetheless, California must hold fast to its goal of providing high-quality professional development to all teachers. Teachers are essential to the state's plans for school reform and increased student achievement, and in this era of fiscal shortfalls, the state will need to act wisely to maximize its investment in professional development.

Chapter 5. Policy Recommendations

A decade ago, California's rank as the lowest-performing state in the nation shocked the state's educators. A few years later, the problems of the educational system were compounded when class size reduction at the elementary level unintentionally created a severe shortage of fully credentialed teachers. Districts hired tens of thousands of underprepared teachers to staff California's schools, many of which were already low performing.

Faced with this crisis, California's policy-makers took action on several fronts. They increased funding to produce more fully credentialed teachers and launched a set of recruitment initiatives. In addition, they strengthened and expanded the state's teacher induction program to help retain teachers in the profession and increased funding for teacher professional development in the areas of elementary literacy and mathematics. In another effort to address teacher quality, policy-makers strengthened credentialing requirements and standards for teacher preparation and induction programs.

In total, the state spent hundreds of millions of dollars on these efforts, and there is evidence that they had begun to have a positive effect. The supply of fully credentialed teachers, for example, steadily increased, and the number of underprepared teachers steadily decreased. Most important, according to the API, student achievement began to rise.

But when California's economy took a turn for the worse, sustaining these initiatives became increasingly difficult. In the early 2000s, budget cuts decimated funding for teacher recruitment. Reduced allocations for higher education resulted in fee increases for teacher credential candidates. A key initiative that assesses the performance of teacher candidates—the TPA—remains unfunded. In addition, several professional development initiatives have had their funding significantly reduced in the last few years.

Today, California's teacher development system is in a precarious situation. Despite improvements in the past few years, a shortage of fully credentialed teachers to staff the state's classrooms remains. In addition, underprepared teachers continue to be unfairly distributed, being concentrated in the state's lowest-performing schools and those serving the greatest proportions of poor and minority students. And, recently, some of the positive trends of the past few years have even reversed direction—for example, the production of fully credentialed teachers has declined for the first time in several years, and enrollment in regular CSU teacher preparation programs has decreased. Worst of all, progress on improving student achievement has slowed. Looking ahead, bigger problems loom on the horizon, and they are likely to exacerbate these conditions. Specifically, the age of today's teacher workforce will lead to a bulge in retirements and is likely to create a shortfall of teachers in future years. In the near term, this will be a particular problem in high schools, where student enrollment is increasing, and in subject areas, such as English, mathematics, and science, where teacher shortages already exist.

These problems are developing just when a highly qualified workforce is most needed. As the federal NCLB legislation raises expectations for academic achievement every few years, schools are facing higher expectations more than ever. The state's own accountability measures have also heightened the academic expectations for California's students. For example, they must pass CAHSEE to receive a diploma. The *Williams v. California* lawsuit

has increased pressure on the state to promptly address the issue of equity, including the fair distribution of truly qualified teachers.

Clearly, much work remains to be done to prepare California's teacher workforce to meet the state's educational challenges. The data in this report suggest that policy-makers have a very brief window of opportunity for action if the teacher pipeline is to be restored to the point where the state can keep its commitment to provide a truly qualified and effective teacher for every child.

We strongly encourage education leaders and policy-makers to recognize the current and future need for teachers of special education and English language learner students in the coming legislative session. Further, we ask them to take action to address the effects of the baby boom retirement wave and the bulge in middle and high school student enrollment. These two developments will exacerbate chronic shortages, felt most by the state's poorest schools, in the critical subject areas of mathematics, science, social science, and English. This year, we encourage state leaders to take the following actions:

1. **Immediately address the current and future demand for truly qualified and effective teachers resulting from ongoing shortages and impending retirements.** Develop and implement a plan for the recruitment of teachers in hard-to-staff schools and in critical subject matter areas. As a first step, carefully assess the strengths and weaknesses of current and past teacher recruitment initiatives, including the Teaching as a Priority program (TAP), the Teacher Recruitment Incentive Program (TRIP), the Paraprofessional Teacher Training Program (PTTP), the Governor's Teaching Fellowship program, and the Assumption Program of Loans for Education (APLE). The purpose of this assessment is to identify the most effective programs and policies to attract, place, and keep teachers in traditionally hard-to-staff schools, and to use it as a foundation on which to construct a broad-based statewide systemic approach to teacher recruitment.

2. **End the disproportionate assignment of underprepared teachers to schools ranked in the lowest three deciles on the API.** Require, as part of the settlement of *Williams v. California*, that county superintendents of schools review district assignment policies and practices and the resulting distribution and class assignment patterns of new, underprepared, and out-of-field teachers. The results of this review and analysis should be reported to the local board of education and the State Superintendent, along with recommendations to resolve any inequities.

3. **Strengthen the teacher pipeline to ensure that community college students are provided an entry point to a clear and unimpeded path into the teaching profession.** Direct the chancellors of the community college system and the California State University to develop, in the next 18 months, ways to strengthen articulation agreements between campuses and expand collaborative blended teacher preparation programs. Revise and expand articulation agreements between institutions to facilitate the preparation and transfer of community college students into 4-year colleges and universities.

4. **Address the persistent inconsistency between the implementation of intern preparation programs and the Beginning Teacher Support and Assessment induction programs.** Ensure that all novices get the support they need to succeed in the first years of teaching and that the assistance received is coherent and not duplicative. Direct the State Superintendent of Public Instruction and the California Commission on Teacher Credentialing, as part of the implementation of SB 2042, to jointly develop guidelines for program implementation that support an interface between the two programs that is in the best interests of novice teachers and the students they serve.

5. **Provide data on the state's teacher workforce on a consistent and timely basis, so that California's education policy-makers can better gauge critical employment trends, as well as the impact of specific initiatives and investments.** Convene a state-level, independent entity made up of representatives of relevant agencies and organizations to oversee the collection and analysis of teacher workforce data and ensure that the standards of privacy of the individual are upheld. Data collection should enable the tracking and analysis of recruitment, retention, assignment patterns, and workforce projections, and comply with state and federal reporting requirements.

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Appendix A
Technical Information for Selected Exhibits

This appendix provides additional technical information for report exhibits.

Chapter 2. Teacher Supply and Demand

Exhibit 1
New Preliminary and Intern Credentials Issued, by Type of Institution, 1991-92 to 2002-03

Only multiple-subject and single-subject teaching credentials are included. "New preliminary credentials" include teachers receiving first-time, new-type preliminary or professional clear credentials (first-time, new type professional clear credentials typically represent a newly credentialed teacher, not an experienced veteran earning a Level II credential).

Exhibit 2
California K-12 Teacher Workforce, 1993-94 to 2003-04

For 1992-93 to 1996-97, total workforce numbers are from the California Basic Educational Data System (CBEDS) historical files. Data for 1997-98 through 2003-04 are taken from DataQuest.

Exhibit 7
Number of Underprepared Teachers, 1997-98 to 2003-04

Underprepared teachers were identified as those who responded on the Personnel Assignment Information Form (PAIF) that they did not hold a "full credential" (defined by CDE as a preliminary, professional clear, or life credential). All subsequent analyses of "underprepared" teachers identify these teachers as those who responded on the PAIF that they did not hold a full credential. This definition of underprepared includes teachers holding intern credentials or certificates.

Exhibit 8
Number of Underprepared Teachers, by Credential Type, 1999-2000 to 2003-04

Underprepared teachers were identified as those who responded on the Personnel Assignment Information Form (PAIF) that they did not hold a "full credential" (defined by CDE as a preliminary, professional clear, or life credential).

Exhibit 11
Distribution of Schools, by School-Level Percentage of Underprepared Faculty, 2003-04

All nontraditional schools, such as adult, vocational, state special schools, or other alternative schools, are not included in the analysis.

Exhibit 12
Underprepared Teachers by School-Level Percentage of 10th-Grade Students Passing the Mathematics Portion of CAHSEE, 2003-04

Tenth-grade students were given one opportunity to take CAHSEE. Students absent on the day of the examination were generally given a make-up test at a later date during the school year. To determine the total number of 10th-grade students who passed the mathematics portion, the

variable "combined administration" was used to capture the number of students who took the exam on either the established test date or the make-up test date. To protect student privacy, the state gave all schools with 10 or fewer 10th-grade students taking the exam a value of "0" for the percent of students passing the mathematics portion of CAHSEE. Because this "0" did not mean that no students passed the mathematics portion of the exam, the 49 schools with 10 or fewer students are not included in the analysis.

Exhibit 13
Underprepared Teachers by School-Level Percentage of 10th-Grade Students Passing the English Language Portion of CAHSEE, 2003-04

Tenth-grade students were given one opportunity to take CAHSEE. Students absent on the day of the examination were generally given a make-up test at a later date during the school year. To determine the total number of 10th-grade students who passed the English portion of CAHSEE, the variable "combined administration" was used to capture students who took the examination on either the established test date or the make-up test date. To protect student privacy, the state gave all schools with 10 or fewer 10th-grade students taking the examination a value of "0" for the percent of students passing the English portion of the examination. Because this "0" did not mean that no students passed the English portion of CAHSEE, the 46 schools with 10 or fewer students are not included in the analysis.

Exhibit 14
Underprepared Teachers in Schools in the Highest and Lowest API Achievement Quartiles, 1999-2000 to 2003-04

The numbers of schools included in these analyses vary each year because of differing numbers of schools and differences in the completeness of the data sets. All nontraditional schools, such as adult, vocational, state special schools, or other alternative schools, are not included in the analysis.

Exhibit 15
Underprepared Teachers in Schools with the Highest and Lowest Percentages of Minority Students, 1999-2000 to 2003-04

The numbers of schools included in these analyses vary each year because of differing numbers of schools and differences in the completeness of the data sets. All nontraditional schools, such as adult, vocational, state special schools, or other alternative schools, are not included in the analysis.

Exhibit 16
Underprepared Teachers in Schools with the Highest and Lowest Student Poverty Levels, 1999-2000 to 2003-04

The numbers of schools included in these analyses vary each year because of differing number of schools each year and differences in the completeness of the data sets. All nontraditional schools, such as adult, vocational, state special schools, or other alternative schools, are not included in the analysis.

Exhibit 17
Underprepared Teachers in Schools with the Highest and Lowest Percentages of ELLs, 1999-2000 to 2003-04

The numbers of schools included in these analyses vary each year because of differing number of schools each year and differences in the completeness of the data sets. All nontraditional schools, such as adult, vocational, state special schools, or other alternative schools, are not included in the analysis.

Exhibit 18
Percentage of Underprepared Teachers, by Type of Authorization, 1999-2000 to 2003-04

The percentage of underprepared teachers has been calculated as a percentage of full-time teachers by authorization who report not having a full credential (i.e., a preliminary, professional clear, or life credential). Teachers can report more than one type of authorization. Teachers who reported not holding any type of credential, permit, or certificate are not included in this analysis.

Exhibit 20
Number and Percentage of Out-of-Field and Underprepared High School Teachers in Assigned Subjects, 2003-04

Only full-time teachers in California high schools have been included in this analysis. Teachers have been "assigned" to a subject if they reported they taught at least one class in a core subject—English, mathematics, social science, physical science, or life science. Teachers could have more than one assignment. For example, a teacher who teaches three periods of biology and two periods of English would have an English assignment and a life science assignment, both of which require the teacher to have the proper single subject authorization.

Teachers who were assigned to a subject, but lacked a full credential have been included in the underprepared category. Teachers who indicated they are fully credentialed and authorized to teach in a secondary classroom, but do not have subject matter authorization in their assigned subject have been included in the out-of-field category. The percentages in parenthesis indicate the proportion of out-of-field teachers or underprepared teachers in the total number assigned to teach at least one class in the subject.

Chapter 3. Teacher Preparation and Recruitment

Exhibit 23
New Preliminary Teaching Credentials Issued, 1992-93 to 2002-03

These credentials are limited to multiple-subject and single-subject teaching credentials. All credentials in this graph are first-time, new-type preliminary or professional clear credentials (first-time, new-type professional clear credentials typically represent a newly credentialed teacher, not an experienced veteran earning a Level II credential). Interns are not included.

Exhibit 24
General Education and Special Education Preliminary Credentials Issued, 1997-98 to 2002-03

General education preliminary credentials include multiple-subject and single-subject credentials. All credentials in this graph are first-time, new-type credentials. Interns are not included.

Exhibit 25
New Preliminary and Intern Credentials Issued, 1991-92 to 2002-03

Only multiple-subject and single-subject teaching credentials are included. "New preliminary credentials" include teachers receiving first-time, new-type preliminary or professional clear credentials (first-time, new-type professional clear credentials typically represent a newly credentialed teacher, not an experience veteran earning a Level II credential).

Exhibit 28
New Special Education Credentials Issued, 1997-98 to 2002-03

"New special education credentials" include first-time and new-type credentials.

Appendix B
Projecting Teacher Supply and Demand

Using the best available historical data beginning with 1992-93, we projected demand for the number of teachers needed and the number of credentialed teachers employed in the teaching workforce from 2004-05 through 2013-14. Our projections have relied on publicly available state-level data, as well as analyses conducted with specially requested data sets from state agencies, as we discuss below. Even with the best available data, we recognize that projection results can vary widely, depending on key assumptions, and that those assumptions have inherent weaknesses resulting from limitations concerning data usability in projecting supply and demand. Our assumptions and supporting analyses follow.

Our method of projecting supply and demand followed these general steps:

1. Estimate total demand for teachers each year.
2. Estimate total number of fully credentialed teachers in the workforce each year.
3. Estimate the total number of teachers with intern credentials in the workforce each year.
4. Calculate the difference between total demand and estimated number of credentialed teachers in the workforce.

The "gap" is the difference between total demand and the number of credentialed teachers available to meet that demand. Currently, individuals without full credentials— interns, pre-interns, and individuals on emergency permits and waivers—fill this gap. In this year's report, we show how much of this gap can be filled by intern teachers who are considered "highly qualified" under NCLB, but who are not fully credentialed.

Total Demand Calculations

Total demand for credentialed teachers is a function of projected student enrollment, pupil-to-teacher ratio, and teacher attrition and retirement rates. Exhibit B-1 details these assumptions.

Exhibit B-1
Demand Factors and Assumptions

Demand Factor	Assumptions
Projected student enrollment	Actual 2002-03 student enrollment (CDE, 2003f), plus annual growth rate of 1.0% in 2004-05, declining to a growth rate of 0.03% in 2013-14 (CDOF, 2004b).[1]
Pupil-to-teacher ratio	Actual 2003-04 statewide pupil-to-teacher ratio of 20.6, calculated by dividing CDE-reported total enrollment by CDE-reported total teachers for 2003-04. This number differed slightly from the CDE reported pupil-teacher ratio of 21.2 for 2003-04. The ratio of 21.2 was applied to projected years 2004-05 through 2013-14.
Attrition rate	Estimated at 4.6% of the total teacher workforce annually, held constant through 2013-14. This is a 7-year average derived from cohort analysis of the PAIF collected annually by CDE (CDE, 1999h)[2] (also see the discussion of the attrition rate below).
Retirement rate	Estimated retirement rates using CalSTRS membership data from the CalSTRS fiscal 2002-03 annual report (California State Teachers' Retirement System, 2004). A retirement rate *index* was created on the basis of total CalSTRS membership data. The index was applied to estimated 10-year historical average K-12 teacher retirement rate of 1.8%, derived from cohort analysis of the PAIF collected annually by CDE (see discussion of historical retirement rate and retirement bulge below).

Attrition Rate

The PAIF, an annual survey of all teachers employed in the state, captures years of teaching experience, years of employment in the same district, full- or part-time status, teaching and school assignment, and, since 1998, full-credential status (an individual with full-credential status holds a preliminary or professional clear credential[3]). The PAIF does not include consistent individual identifiers and therefore does not track teachers over time.

Following the general methods used in Fetler (1997), we have constructed hypothetical cohorts using the database for 1990-91, 1992-93, 1994-95 through 2000-01, and 2003-04.[4] That is, those reporting 1 year of teaching experience in 1994-95 were assumed to be those reporting 2 years of teaching experience in 1995-96, and so on.[5] For each cohort, we have calculated the difference between the numbers of teachers from one year to the next, from 1990-91 through

1 Because CDE includes students under the California Youth Authority, whereas CDOF does not, the rate of growth used in the CDOF projections from 2003-04 through 2013-14 is applied to the student enrollment CDE reported in 2002-03.

2 PAIF data were not collected in 1991-92 and 1993-94. Years 1996-97 through 2000-01 were retrieved from http://www.cde.ca.gov/demographics/files/paif.htm. Data files and file structures for all other years were specially requested from CDE's Educational Demographics Unit.

3 For a description of variables see *Professional Assignment Information Form. File structure*, http://www.cde.ca.gov/ds/sd/cb/filepaif.asp

4 For 2001-02 and 2002-03, PAIF did not contain the necessary variables for this analysis.

5 Fetler (1997) defined a cohort as those reporting the same years of experience as years in the same district. Those reporting more years of experience than years of employment with their current district were eliminated from the cohort. Thus, the size of the cohort was reduced by the number of individuals changing districts, as well as by those leaving the profession. In other words, Fetler overstated attrition by capturing both attrition from the district and attrition from the profession.

2003-04. Those reporting more than 50 years of experience have been eliminated from the analysis because they represent a very small number and because errors in the data could not be ruled out. The difference for cohorts with fewer than 25 years of experience has been assumed to be attrition from the profession.[6] (Those leaving after 25 years of experience or more have been considered to have retired—see the Retirement section below.)

The primary problem with this approach is that it has a systematic bias for underestimating attrition. Specifically, teachers who leave the profession for a limited time but re-enter are included in the attrition numbers during the year they leave. On their re-entry, they are counted among those remaining in the profession for another cohort (assuming that they report the years of experience they had attained before leaving). This calculation technique thus overestimates attrition in the year they left and reduces the number of teachers who appear to leave the profession in the year they return. Although such differences may cancel out when averaged across multiple cohorts, that is not true of teachers from other states with more than 1 year of experience entering the California teaching force. With this method, counting out-of-state teachers—averaging more than 4,000 annually from 1995-96 through 2002-03—systematically reduces the number of teachers who are assumed to have left the cohort.

The number of teachers apparently dropping out of each cohort, summed across cohorts reporting fewer than 25 years of experience and taken as a percentage of the teaching force, has yielded a statewide estimate of attrition. From 1993-94 to 2002-03, the estimate for attrition over those 10 years ranged from 2.8% to 6.8% and averaged 4.6% annually. We have used the annual average to project attrition.

Historical Retirement Rate

Using the same PAIF analysis as that for attrition, we have assumed that changes in cohorts of 25 years' or more experience represent retirement. From 1991-92 to 2003-04, the estimate for retirement ranged from 0.9% to 2.2% and averaged 1.8% annually.[7]

Retirement Rate

Rather than assuming a flat retirement rate, we have factored a retirement bulge into the demand projections to account for the impending retirement of baby boomers. Using data from the CalSTRS fiscal year 2003 annual report (California State Teachers' Retirement System, 2004), the number of active members was forecast by applying 13-year (1991-2003) historical averages for the annual percentage of members turning inactive and the annual percentage of members joining CalSTRS. The annual number of retiring members from 2004-05 to 2013-14 has been projected by using actual age-based data. Members aged 51 to 60 in 2004 were assumed to retire at the CalSTRS members' average retirement rate of 60 from 2004-05 through 2013-14. The number of annual retired members was calculated as a percentage of total estimated members for that year. The corresponding annual retirement rates were indexed to the 13-year (1991-2003) historical average CalSTRS members' retirement rate. The resulting index begins at 202 in 2004, peaks at 301 in 2007-08 and declines to 209 in 2013-14.[8]

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6 The number of teachers with more than 1 year of experience consistently decreases from year to year.

7 Data for retirement are available for more years than are data for attrition because the attrition estimates also incorporate data on out-of-state credentials, which we have for fewer years.

8 These index figures differ from those estimated in Shields et al. (1999) because data were updated for the latest 4 years.

Supply Calculations

Two groups comprise the supply of teachers taking jobs in California—fully credentialed teachers and interns (see Exhibit B-2). Fully credentialed teachers include veteran credentialed teachers, newly credentialed teachers, reentrants, and out-of-state teachers. The "supply" of fully credentialed teachers refers to those who hold preliminary or professional clear credentials as specified by CTC requirements and who are willing to take jobs for the salary, assignment, location, and working conditions offered. In the previous two reports (Shields, et. al. 1999 and 2001), interns were not included in the supply of teachers because they had not met the minimum requirements for a preliminary or professional clear credential. Under NCLB, interns have been defined as meeting the "highly qualified" definition. As a result, a separate line indicating the supply of interns has been added to the supply of fully credentialed teachers to show the supply of NCLB-compliant teachers. Our supply count excludes teachers who do not meet the NCLB's "highly qualified" definition, including those who are teaching with emergency permits, pre-intern certificates, or waivers. The larger pool of teachers qualified to teach but electing not to do so cannot be estimated with the available data.

Exhibit B-2
Supply Components and Assumptions

Supply Component	Assumptions
Veteran credentialed teachers	Estimated credentialed teachers from previous year. less the attrition and retirement rates.
New credentials issued	First-time and new type multiple- and single-subject teaching credentials. plus first-time special education and first-time and new type education specialist credentials. (Teachers with new type credentials include those who previously held emergency permits.) The latest available data are from CTC for 2002-03. The projected annual change in new and first-time credentials recommended by private institutions are based on a 10-year (1992-93 to 2002-03) average. (CTC, 1998a, 1999a, 1999b 2000, 2001a, 2002a, 2002b, 2003a, 2003c, 2004a, & 2004c).[9]
Newly credentialed teachers taking jobs (participation rate)	Participation rates of each cohort of newly credentialed teachers are 81% within 1 year, 2.1% between 1 and 2 years, and 0.5% at 2 or more years after receiving the credential, derived from analysis of CTC and CalSTRS data (see Participation Rate below).
Re-entrants	Numbers of reentrants for 1993-94 to 1999-2000, estimated by subtracting the number of new teachers from the number of new hires.[10] The 7-year (1993-94 to 1999-2000) average of the estimated number of reentrants has been taken as 0.6% of the workforce in the prior year, held constant from 2000-01 to 2013-14.
Out-of-state new hires	The 8-year (1995-96 to 2002-03) average number of out-of-state new credentials of 4,137 has been held constant from 2003-04 to 2013-14 and subject to the assumed participation rates.
Interns	The 6,694 interns in 2002-03 has been held constant from 2003-04 to 2013-14. We have assumed 100% participation in the workforce.

Participation Rate

By special request in 2001, CTC and CalSTRS provided data to SRI on credentialing and contribution to CalSTRS for individuals who received first-time/new type preliminary, emergency permit, or intern credentials for cohorts from 1991-92 through 1998-99. SRI linked the data to analyze the routes into teaching. To calculate the participation rate—the percentage

[9] Note: Data for years 1991-92 to 1996-97 are from CTC (1998a); data for 1997-98 are from CTC (1999a & 1999b); data for 1998-99 are from CTC (2000); data for 1999-2000 are from CTC (2001a); data for 2000-01 are from CTC (2002a & 2002b); data for 2001-02 are from CTC (2003a & 2003c); data for 2002-03 are from CTC (2004a & 2004c). Annual totals include first-time and new-type, multiple- and single-subject, and special education/education specialist credentials.

[10] New hires include all recipients of first-time/new type preliminary credentials, intern credentials, and emergency permits who took jobs as indicated by contributions to CalSTRS.

of new credential holders who took full-time teaching jobs—contribution to CalSTRS was used as a proxy. The participation rates derived from this 2001 analysis (described below) were applied to this year's projections calculations.

The data set was organized by cohorts of teachers defined by when they first received credentials from CTC; however, analysis of the CalSTRS data showed that many had been contributing to the teacher retirement system previously. To distinguish those who were truly new to teaching from those who probably held previous teaching jobs, we divided the cohort into four analytic categories, based on whether individuals had previously held another full credential, emergency permit, intern credential, or no credential allowing them to be teachers of record. This step was crucial to the analysis of workforce participation because we would not expect individuals who were previously teachers of record to take jobs at the same rate as those with no previous experience. Had we analyzed all credential recipients of a cohort together, we would have compared individuals who had just began teaching with those who received other credentials in past years and had probably been teachers of record for several years already.

Contribution to CalSTRS is an inexact proxy for workforce participation and results in an overestimate of the number of credential holders who are full-time classroom teachers. We know that (1) some portion of those making CalSTRS contributions is working part-time or as substitute teachers, (2) some portion is working in nonclassroom assignments, and (3) some portion may even be working as community college instructors. The individuals in these three categories are involved in "creditable service" and thus qualify to make CalSTRS contributions, but they are not full-time K-12 classroom teachers. Therefore, the resulting workforce participation rate is inflated in the sense that we are counting individuals with whom we are not concerned for the purposes of this analysis. Although we were able to estimate the numbers who begin as substitute teachers, we could not isolate the number who work as part-time teachers or in nonclassroom assignments.

Because there were clear trends in changing participation patterns throughout the 1990s, we used participation rates for the three most recent cohorts included in the analysis (1996-97 through 1998-99, post-CSR) in the projections. The CTC/CalSTRS analysis on workforce participation reveals that, historically, a significant percentage of newly credentialed teachers take their first teaching jobs up to 3 years after receiving their credential. For the cohorts receiving their credentials from 1996-97 through 1998-99, 86.4% took jobs before or within 1 year of receiving their credentials, another 2.2% took jobs during the second year, and 0.5% took jobs in the third year or later. Of those who took jobs, 55% entered as substitutes and 45% entered in another capacity, although not necessarily a regular classroom teacher. Of those who began as substitutes, the vast majority (88%) changed status from substitutes to "nonsubstitutes" within 1 year. The participation rates were applied to those who did not begin as substitutes and the percentage of substitutes who converted to nonsubstitute status within 1 year. The effective participation rates therefore were 81% within 1 year, 2.1% between 1 and 2 years, and 0.5% at 2 or more years after receiving the credential.

Re-entrants

No direct measure of reentrants is available from the data currently collected in the state. To estimate this figure, we have calculated the annual number of teachers retained from the prior year, based on the PAIF analysis described for attrition and retirement. The difference between the number of teachers in the workforce and the number of teachers retained from the prior year

represents the total number of new hires. We have taken the number of individuals new to teaching, which includes all new preliminary and intern credential holders, as well as new emergency permit holders, who take jobs. The difference between the number of new hires and new individuals taking teaching jobs has been assumed to be the number of reentrants. This number (0.6% of the workforce in the prior year) has been held constant in the projections.

Calculating the Gap Between Demand and Supply of Fully Credentialed Teachers Taking Jobs

The supply of fully credentialed teachers in the workforce in a given year is equal to the sum of:

- Veteran credentialed teachers continuing to teach (i.e., net of attrition and retirement).
- The number of newly credentialed teachers (including those from out of state) taking jobs.
- The number of re-entrants.

The difference between the total number of teachers required in the state and the supply of fully credentialed teachers taking jobs represents the number of teaching positions unfilled by fully credentialed teachers. Some of these teaching positions are currently filled by interns, who meet the definition of "highly qualified" under NCLB, but have yet to complete the requirements for a full credential. We have accounted for the gap filled by interns in the projections. The remaining unfilled positions would have to be staffed with underprepared teachers, such as those with emergency permits and waivers, to maintain the current pupil-to-teacher ratio. As we indicated above, the attrition rates are likely to be understated, and the participation rates are likely to be overstated.