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I. INTRODUCTION

Every California school child deserves a qualified and effective teacher. Regardless of where a student lives, the color of her skin, the wealth of her parents, or the achievement level of her peers, each child has the right to a high-quality education—and a high-quality education depends on the skills, attitudes, and knowledge of her teacher. As standards are raised across the state, social promotion is eliminated, and graduation from high school depends on passing a new examination, the need for all students to have a qualified and effective teacher has never been greater. In fact, the need is greatest for just those children most at risk of not meeting the new state standards and not being able to pass the new state exam.

Unfortunately, not all school children have access to qualified teachers. In fact, nearly one in every seven California classrooms are taught by an individual without even the minimum qualifications. Worse, those students who need the most help from a fully prepared professional are the least likely to receive it. Students in high-poverty schools where levels of academic performance are low are much less likely than their more advantaged peers to have a fully qualified teacher at the head of the class. Moreover, when teachers arrive at these schools, they face such difficult working conditions—year-round tracks, insufficient instructional materials, poor equipment, and severe overcrowding—that they are likely to leave as soon as possible. As a result, the teaching force in high-poverty schools with low-achieving students tends to be less experienced, with fewer veteran teachers, than in schools with more advantaged children.

Policy-makers' Response

In response to these conditions, the Governor and the Legislature have taken a series of bold steps to improve the quality of the teacher workforce and to attract more qualified candidates into California's schools. These efforts include:

- A series of initiatives to recruit new teachers into the profession.
- A set of interrelated policies to boost teacher salaries and provide incentives for veteran teachers to remain in the workforce.

- Continued support for strengthening both traditional and alternative routes into the teaching profession.
- Funding to ensure that all new teachers have support from experienced peers.
- Support for professional development for more than 70,000 teachers annually.
- An overall 11% increase in state spending on K-12 education, designed to provide local districts with the resources necessary to attract, retain, and provide support for a qualified teacher workforce.

Together, these initiatives, combining statewide targeted efforts with unrestricted resources to local districts and schools, represent an unprecedented focus on addressing the challenge of teacher quality in the state.

Policy-makers recognize that these initiatives will not solve our problems overnight. In fact, as we will present later in this document, the challenges—at least in the short term—may be getting more formidable. While practitioners gear up to put these new initiatives in place, the number of underqualified teachers continues to grow, as do the disparities between more and less advantaged schools. Such findings underscore the importance of the state’s commitment to strengthening the quality of the California teacher workforce and suggest that, in the absence of these initiatives, the problem would only grow worse.

Given the growing challenge, policy-makers will need to balance plans for any new initiatives with the recognition that recent policies will take some time to have their intended impact. Steps necessary to ameliorate these short-term needs are those that allow for the effective implementation of current initiatives, expand efforts that focus on teacher quality, and then ensure that systems are in place to inform policy-makers of the progress of their initiatives and their impacts on the status of the teaching profession.

Teaching and California’s Future

Teaching and California’s Future is a 3-year-old initiative designed to provide policy-makers with the kind of data they seek to inform their decisions. Led by the Center for the Future of Teaching and Learning and cosponsors—California State University Institute for Educational Reform; Policy Analysis for California Education (PACE); Recruiting New Teachers, Inc.; University of California Office of the President;

and WestEd—a group of policy-makers and practitioners have worked together to seek common ground in strengthening the state’s teacher workforce. *Teaching and California’s Future* involves a twofold strategy: (1) convening a Task Force of key policy-makers, practitioners, institutions of higher education, and professional organizations to develop and implement a plan to improve teacher development in California; and (2) undertaking a comprehensive study of the conditions of teacher development in the state to inform the work of the Task Force.

In June 1998, the research team from SRI International presented the Task Force with *An Inventory of the Status of Teacher Development in California*.¹ The *Inventory* reviewed and assembled secondary data on key issues facing the teacher development system. The Task Force’s review of the *Inventory* resulted in a decision to move forward with a study to collect data on a series of issues not well addressed through existing data. The SRI research team then carried out a year-long study of the teaching profession in California, including a statewide survey of teachers and in-depth case studies of local districts, schools, and teachers.

The results of that work were released to the Task Force and then to the general public in December 1999. The report, *The Status of the Teaching Profession: Research Findings and Policy*,² documented the maldistribution of underqualified teachers across the state and pinpointed the strengths and shortcomings in the systems designed to support teachers. In response to these findings, the Task Force leadership developed a set of key goals:

1. Ensure that every child has a fully qualified, effective teacher.
2. Eliminate the hiring of underqualified teachers.
3. Improve the ability of the teaching profession to attract and keep fully qualified teachers.
4. Strengthen accountability for all teacher education programs.
5. Reduce unnecessary barriers to teaching.
6. Encourage and support teachers to reach high levels of subject matter expertise and instructional skill.

These goals, the strength of the data on which they were based, and the goodwill and efforts of the Task Force membership combined to help shape the policy debate over the past year. The final legislative and budgetary actions for 2000-01, which we reviewed above and discuss in detail in Chapter II, reflect the priorities of the Task Force.

Next Steps

A central message of *The Status of the Teaching Profession* was policy-makers' need for up-to-date and relevant data with which to make decisions. The need for such information has never been so crucial. The shortage of qualified teachers in California classrooms is worsening; the neediest students are less likely than last year to have a qualified teacher. Policy-makers need to continue to focus on recruiting and retaining qualified teachers and providing them the appropriate professional support throughout their careers. In seeking to address these challenges, policy-makers will need to track the impacts of the last round of new policies just being put in place.

To this end, the leadership of *Teaching and California's Future* committed itself to continuing the work of assessing the state's progress in creating a fully qualified and effective teacher workforce that would reach all of California's children. This document is designed to provide an update on the status of the teaching profession. In the following chapter, we review the recent policy responses to the challenges of creating a fully qualified workforce. The third chapter is devoted to an update of analyses on teacher supply and demand in the state, with a focus on the distribution of qualified and underqualified teachers. In the final chapter, we pose a series of key questions, the answers to which will provide policy-makers with the kind of information needed to refine existing policies and develop new initiatives.

Teaching and California's Future will continue beyond the publication of this update. The SRI research team is launching a second round of original data collection during the 2000-01 school year to address those questions that cannot be easily answered with data from secondary sources. A report based on the new data will be available in fall 2001.

II. POLICY UPDATE

RECRUITMENT AND COMPENSATION

- The 1999-2000 Legislature passed several new recruitment initiatives and expanded others, for a total of \$151.6 million for recruitment efforts.
- New initiatives include the Teacher Recruitment Initiative Program (to establish six regional teacher recruitment centers), the Teaching as a Priority block grant (to award districts grants to lower the number of emergency teachers in low-performing schools), and the Governor's Teaching Fellowships Program (to provide fellowships to teacher preparation students who agree to teach in a low-performing school).
- Other initiatives aim to recruit and retain qualified teachers by helping school districts offer higher salaries, providing tax credits for teachers, removing financial disincentives for retired teachers to remain active in schools, and rewarding teachers in low-performing schools that show improvement.

TEACHER PREPARATION AND CREDENTIALING

- In the past 3 years, CSU has committed and received funding to increase the production of teacher candidates, including by developing the distance learning program CalStateTEACH, and by creating and expanding summer terms on CSU campuses.
- Alternative routes into teaching continue to grow. Intern programs have grown significantly in terms of programs, participants, and overall funding since the mid-nineties. Though relatively small in numbers of participants, blended programs, the CalStateTEACH program, and pre-intern programs continue to offer alternative paths into teaching.
- Recently funded Community College Teacher and Reading Development Partnerships encourage community college students to pursue teaching careers.
- Policy-makers are working to strengthen the system for credentialing teachers in the state, in particular by exploring a new two-tiered credential structure that would include an induction program and a formative evaluation for every new teacher.

TEACHER INDUCTION AND PROFESSIONAL DEVELOPMENT

- Following a dramatic budget increase in 1998-99, the BTSA program is serving larger numbers of teachers than ever, reaching a projected 26,500 teachers in 2000-01. Some new teachers, however, are not currently being served by BTSA.
- The Legislature provided significant new or expanded funding for professional development institutes in elementary math, algebra, high school English, and English language development. Programs are targeted at teachers in low-performing schools.

California policy-makers are well aware of the challenges the state faces in ensuring that every classroom has a qualified and effective teacher. Over the past few years, numerous policies have been developed and implemented to address these challenges, including targeted funding to the California State University System to increase the preparation of new teachers and the scaling-up of the Beginning Teacher Support and Assessment (BTSA) program to ensure that teachers have the proper support once in the profession.

In 1999-2000, the Governor and the Legislature made an unprecedented investment in teacher quality. New initiatives and substantial resources were committed to recruit and retain qualified teachers, to bolster the system of preparing teachers, and to strengthen the current teacher workforce. We outline the new initiatives in each of these three core areas below.

Recruitment and Compensation

Several recent initiatives aim to increase the supply of qualified teachers through one of two strategies: (1) attracting more individuals into the profession or (2) retaining more teachers by enhancing their compensation. A host of current recruitment efforts direct funding to different levels of the system: to a state-level recruiting and information service, to recruitment centers at the regional level, to individual school districts in the form of competitive grants, and to prospective teacher candidates as financial incentives. Efforts to improve teacher compensation aim to help districts raise beginning salaries, keep potential retirees active in the teaching workforce, and reward teachers for improved student performance.

New and Expanded State-Supported Recruitment Strategies

The 1999-2000 Legislature passed three new recruitment initiatives and expanded two others, for a total of \$151.6 million. These recruitment initiatives aim to reach out to potential candidates who are already in the process of obtaining a credential, those who have already obtained a credential, and those who have not yet considered teaching as a career.

California Center for Teaching Careers (CalTeach). CalTeach is a statewide recruiting effort for California public schools, administered by the California State University Institute for Education Reform and housed at two CSU campuses, Sacramento and Long Beach. It is both a Web-based system and a toll-free phone system for

recruiters, those interested in teaching positions, and those interested in pursuing a career in teaching.

CalTeach was allocated \$2 million in 1999-2000 and \$9 million in 2000-01. The funding increase will support the operation and expansion of the Web site and telephone system, as well as in-state and out-of-state media campaigns. The most recent data from CalTeach show that nearly 20,000 applications have been submitted on-line, more than 6,000 resumes have been posted, and more than 1,000 district recruiters have registered to use the service to recruit new teachers.³

Teacher Recruitment Initiative Program (TRIP). The 2000-01 state budget allocated \$9.4 million for the Teacher Recruitment Initiative Program to establish regional teacher recruitment centers serving northern California, the central valley, the Los Angeles area, the Inland Empire, and San Diego and Imperial Counties. Recruitment centers will serve as clearinghouses for information on the teaching profession and will focus on recruiting teachers to low-performing schools—especially those with more than 20% of teachers holding an emergency permit, intern credential, or waiver. In addition, the recruitment centers will be responsible for conducting outreach programs, screening and distributing prospective teacher resumes, scheduling job interviews, providing technical assistance to school districts to streamline hiring processes, and referring candidates to teacher preparation programs, including alternative programs. Funding for recruitment centers will be based on the estimated number of teachers to be hired (\$700 per teacher). Funding in subsequent years will be based on the actual number hired.

The Sacramento County Office of Education (through which the initiative is administered) will also be responsible to advise CalTeach on its regional media recruitment campaigns, develop a guide on all state-level incentives to attract and retain teachers, consult with the California Commission on Teacher Credentialing (CTC) on delivering technical assistance in credentials counseling, and report teacher replacement data to the appropriate fiscal and policy committees.⁴

Teaching as a Priority (TAP) Block Grant. The largest recruitment initiative, Teaching as a Priority (TAP) block grant received an allocation of \$118.6 million in the 2000-01 budget. This block grant will award competitive grants to school districts to provide incentives to help lower the number of emergency teachers in low-performing schools. Funds may be used to recruit and retain credentialed teachers only, through incentives such as signing bonuses, improved work conditions, improved teacher compensation, and housing subsidies.

School districts will be allocated funding on a per pupil basis for all students enrolled in schools ranked in the bottom half of the Academic Performance Index (API).⁵ Districts will receive 1.5 times as much funding per pupil for schools ranked in the 1st, 2nd, or 3rd decile as for those schools ranked in the 4th and 5th deciles. All funding generated by schools ranked in the 1st, 2nd, or 3rd decile must be spent on those schools specifically.

Financial Incentives for Teacher Candidates. Several recent initiatives aim to increase teacher recruitment and retention with financial incentives. In 1998, the Cal Grant T Program was initiated, providing \$10 million in awards for prospective teachers enrolled in fifth-year teacher preparation programs. Funding allows for up to 3,000 awards annually—approximately \$1,600 for CSU students, \$3,600 for UC students, and \$9,000 for students at independent institutions. This program is designed to increase access to teacher preparation programs and increase the pool of credentialed teachers.

The Assumption Program of Loans for Education (APLE) assumes educational loans for students who agree to teach for 4 years in a specified shortage area (mathematics, science, or special education) or in a low-performing school, a school that serves a large population of students from low-income families, or a hard-to-staff school (more than 20% of the teachers underqualified). The program assumes \$2,000 of a teacher's student loans in the first year of teaching and \$3,000 each year for three subsequent years, for a total of \$11,000. Passed in 2000, SB 1330 provided an additional \$1,000 of loan liability per year to be assumed for teachers who teach mathematics, science, or special education in schools ranked in the lowest 20th percentile of the Academic Performance Index. The number of APLE agreements was expanded from 400 in 1998 to 5,500 in 1999, and then expanded further to 6,500 agreements in 2000.

Governor's Teaching Fellowships. The 2000-01 budget allocated \$3.5 million for the Governor's Teaching Fellowships Program, to provide \$20,000 to graduate students who agree to teach for at least 4 years at a school performing at or below the 50th API percentile. The fellowship money may be used to defray tuition costs and living expenses while students are enrolled in a teacher preparation program at an accredited college or university. Grantees who do not complete their agreed years of service must reimburse the state.⁶ One thousand fellowships will be granted by 2001-02.

* The API reflects each school's performance on the Stanford 9, administered annually as part of the Standardized Testing and Reporting (STAR) system.

Compensation

As the California economy has continued to grow, policy-makers have become increasingly alarmed that the teaching profession will not be able to attract and retain talented individuals. Consequently, state policy-makers have developed a set of interrelated strategies aimed at helping school districts offer competitive salaries and attract and retain qualified teachers.

Beginning Teacher Salaries. The Jack O'Connell Beginning Teacher Salary Incentive Program, passed in 1998-99, provided assistance to districts to increase salaries for beginning teachers who held preliminary or professional clear credentials to a minimum of \$32,000. However, funds provided increases only for teachers at the first step of the salary schedule, making it difficult for some districts to maintain salary growth for subsequent steps of the schedule. Commencing in 2000-01, SB 1643 (2000) will provide assistance to districts to increase beginning teachers' salaries to a minimum of \$34,000, or to "generally enhance teachers' salaries," potentially remedying the problem of no or relatively small salary differences in the first few steps of the schedule. In total, the 2000-01 budget sets aside \$55 million, of which \$20 million is a one-time allocation, for districts to increase beginning teachers' salaries.

Personal Income Tax Credits for Teachers. The 2000-01 budget includes \$218 million in tax credits for current K-12 teachers. The tax breaks range from \$250 for teachers with 4 to 6 years of experience to \$1,500 for teachers with 20 or more years of experience. The maximum credit is 50% of the tax liability from teaching. The estimated revenue loss will be \$188 million in 2001-02 and \$202 million in 2002-03.⁷

Incentives for Retirees. SB 1666 (2000) further removes disincentives for retired teachers to remain active in schools. Previously, retired teachers suffered a reduction in their retirement allowance if they gained even part-time employment through school districts. Recent legislation offered a reprieve to K-3 retired teachers hired to mitigate shortages caused by class size reduction. The provisions under SB 1666 expand the exemption to anyone who: (1) retired on or before January 1, 2000, and (2) is a K-12 teacher or is employed to support student teachers or participants in BTSA, the Pre-Intern program, alternative certification programs (such as intern programs), or the School Paraprofessional Teacher Training Program. These provisions are intended as a stop-gap measure to help alleviate the current shortage of qualified teachers willing to work in the state's schools. The act will be effective until July 1, 2005, unless new legislation is enacted.⁸

In addition, AB 1509 provides a tax-deferred annuity equivalent to 2% of a teacher's salary. The existing State Teachers' Retirement System (STRS) actuarial surplus would make contributions of \$2.9 billion over a 10-year period to cover the annuities, beginning January 1, 2001.⁹

Bonus Pay. The API Certificated Staff Performance Awards program provides funds for monetary awards of \$5,000 to \$25,000 to each teacher in low-performing schools that meet annual API growth targets. The 2000-01 budget doubles the allocation for these bonuses to \$100 million annually for awards to approximately 12,250 teachers each year.¹⁰

The API Schoolsite and Employee Performance Bonuses program offers rewards of \$150 per pupil to all schools, regardless of whether the schools are classified as low performing, that meet or exceed their Academic Performance Index growth goals. The 2000-01 budget provides \$227 million, including a \$96-million unallocated carryover from the previous year.¹¹ An additional one-time allocation of \$350 million is targeted at employees of all schools that meet their API growth targets.

Increase in General Funds. The 2000-01 budget provides \$42.9 billion in state and local funding for schools, up from \$39.5 billion in 1999-2000.¹² On a per-pupil basis, this represents an 11% increase to \$6,696. Funding in both these years exceeds the minimum guaranteed by Proposition 98, by \$1.5 billion in 1999-2000 and by \$1.2 billion in 2000-01.

The May 2000 Revision of the Governor's budget stated that the purpose of the increase is to "permanently eliminate the deficit created by the underfunding of cost-of-living adjustments during the 1990s." The general-purpose funds allow districts to raise teacher salaries, purchase materials and technology, and make other discretionary spending.¹³

Teacher Preparation

The preparation of teachers is clearly a powerful lever for addressing issues of both the size and the quality of the teacher workforce. In Chapter III, we document the gradual increase in the number of teacher candidates produced by the state's teacher preparation programs over the past 4 years. Here we examine recent policy initiatives and programs designed to bolster the system of teacher preparation in the state. We note that, unlike in the areas of recruitment and compensation, there are no major teacher preparation initiatives for 2000-01. There are, however, augmentations to existing

programs. We focus, then, on reviewing and updating the progress of initiatives that began or were expanded in the past few years.

Expanding and Strengthening the Capacity of the California State University System

From 1997 through 2000, the Legislature and the Governor provided additional funding to CSU explicitly to increase the production of teacher candidates:

- In 1997-98, \$5 million in “permanent funding” was appropriated to increase the number of teacher candidates, as well as to develop the distance learning program CalStateTEACH (discussed below) and the recruitment activities of CalTeach.
- In 1998-99, an additional \$18 million in funding was allocated to CSU: \$11 million in additional “permanent funding” for teacher preparation, \$5 million in one-time funding to increase teacher preparation enrollment by 1,800 candidates, and \$2 million in one-time additional funding for the recruitment activities of CalTeach.
- In 1999-2000, the CSU system received \$2.2 million for the evaluation of, preparation for, or expansion of state-supported summer terms.

In addition to legislative action, the CSU Board of Trustees adopted the “CSU’s Commitment to Prepare High Quality Teachers” policy statement in 1998 “to reinforce CSU’s dedication to preparing more high quality teachers as quickly as possible.”¹⁴ Currently, the CSU system is implementing the four principal goals of this policy statement in three phases, which began in the spring of 1999 and will end in the winter of 2001. The four principal goals are: access—to build capacity and efficiency of California’s largest public university; curriculum—to develop opportunities for early and better articulated teacher preparation; high standards—to establish the benchmark for a well-prepared California teacher; and collaboration with schools—to broaden university/K-12 shared role in teacher preparation. To communicate progress toward meeting these goals, CSU began producing an annual report in 1999 titled *Teacher Education Annual Report*. In addition, CSU has begun collecting data on the effectiveness of its efforts.

Building and Strengthening New Routes into the Teaching Profession

The state has encouraged the development of a series of alternative routes into the profession. These programs are designed to increase the supply of teachers in the state while ensuring the quality of the new teachers. Some of these programs, the Intern

program in particular, have long histories but have been expanded rapidly in recent years; others are new initiatives.

Intern Programs. In response to the shortage of fully certified teachers willing to work in some districts and the increased number of uncredentialed teachers, the state has developed programs to assist in the preparation of new teachers as they teach. The Intern program is the largest of these. As described in Chapter III, intern programs are offered by institutions of higher education (IHEs) or districts and provide teachers with a planned course of study and support from mentor teachers and/or IHE faculty. The district or university funds half the cost of administering an intern program; the remainder is reimbursed annually by the state. Legislation chaptered in September 2000 increased the reimbursement rate from \$1,500 to \$2,500 per intern, a substantial increase. In total, the budget for the Intern program in 2000-01 is \$31.8 million. As shown in Table 1, this represents significant growth since the mid-nineties.

**Table 1
Growth of Intern Programs, 1994-1999**

Fiscal Year	Programs	Number of Districts Involved	Dollars Available (millions)
1994-95	29	150	2.0
1995-96	23	178	2.0
1996-97	23	186	2.0 plus carryover
1997-98	52	271	4.5 plus carryover
1998-99	58	330	6.5 plus carryover
1999-00	65	408	11.0 plus carryover
2000-01	75	465 (projected)	31.8 plus carryover

Source: CTC (2000).¹⁵

Pre-Intern Programs. Introduced in 1998, pre-intern programs aim to provide continuous support to move emergency permit teachers toward entrance into a teacher preparation or intern program. Pre-intern programs are distinct from intern programs in that they serve emergency-credentialed teachers who are not yet enrolled in a teacher preparation program and who have not demonstrated subject matter competence. Pre-intern support includes both training in basic teaching skills and help in meeting the requirements for entrance to an intern program.

The program was authorized through the passage of AB 351 in 1997, and funded at \$2 million to serve 1,000 teachers in school year 1998-99. Data from the California Commission on Teacher Credentialing show that 252 new pre-intern certificates were

issued that year. Sixteen of the 18 programs reported that a total of 827 people participated in their pre-intern programs.¹⁶ Half of the funded programs were located in county offices of education and the remainder in school districts. These 18 programs covered 83 districts (out of approximately 1,000 total districts). For 1999-2000, the Legislature greatly expanded the program, earmarking \$11.8 million for 43 funded programs (including 17 continuing in their second year) covering 199 school districts. CTC projected 5,800 pre-interns in 1999-2000, but no actual numbers are currently available. In 2000-01, pre-intern programs continued to be funded at a total of \$11.8 million.

Blended Programs. Blended programs combine undergraduate subject matter and pedagogy to enable students to earn a bachelor's degree and a preliminary credential in four calendar years. Students admitted to the program typically cannot have remedial needs, are often taking more units than their peers, and in some programs are required to take classes over two of their four summers. All of the CSU teacher preparation programs now provide a blended option. However, at most campuses, the programs serve a small and select number of students and consequently are unlikely to affect the overall supply of teachers in the state.¹⁷

CalStateTEACH. CalStateTEACH is an 18-month, multiple-subject teacher preparation program. It is modeled after intern programs in that teacher preparation occurs simultaneously with employment in an elementary school as the teacher of record. The program is also available to people who want to become teachers but do not have access to a university for personal or geographic reasons. What distinguishes CalStateTEACH from other intern programs is that it is an independent study program that uses a mix of print, Internet, video, and audio materials¹⁸ (CSU Teacher Education Annual Report 1998-99). With the exception of five Saturday seminars held at regional centers, CalStateTEACH students do not attend regularly scheduled classes. Although the program has an independent study format, it is not a self-paced program. All assignments have scheduled due dates, and students submit their work via the Internet. Students move through the program with a cohort of 18 to 20 students, with whom they communicate via e-mail. CalStateTEACH began its first year of programming in 1999, enrolling approximately 475 students for the fall and spring semesters. It is estimated that the 2000-01 enrollments will increase to 650.¹⁹

Strengthening the Pipeline from Community Colleges. Historically, community colleges have had a very limited role in teacher preparation, with only 30 of the 107

campuses offering teacher education courses in 1999. In a move to incorporate the 1.4-million-student community college system into the teacher preparation system, the 1999-2000 California state budget included \$10 million for Community College Teacher and Reading Development Partnerships. The purpose of these partnerships is twofold: to encourage community college students to pursue teaching careers and to improve elementary students' reading skills.²⁰ Community college campuses applied for grants, ranging from \$250,000 to \$350,000, to establish, consolidate, or expand their teacher preparation or school tutoring/outreach programs. Program establishment and program consolidation grants are one-time grants, and the program expansion grants are renewable for up to 5 years.

Lowering Barriers for Teachers Prepared in Other States

In 1998, AB 1620 was enacted “to facilitate access to California teaching for both experienced and recently prepared out-of-state teachers.”²¹ This bill appropriated \$90,000 to review program approval procedures, program standards, and subject matter requirements in other states, and to establish reciprocity agreements with those states shown to have teacher preparation comparable to that of California. Results of the initial comparability study were presented in May 2000, finding that 18 states have comparable elementary and/or secondary credentials and 35 states have comparable special education credentials in one or more special education areas. Thirty-seven states were found to have comparable elementary, secondary, or special education preparation *programs*. As of April 2000, CTC had approved 122 recommendations of subject matter comparability from 26 states and was recommending the approval of 42 additional subject matter areas in these same states.

The pending legislation of AB 877 is also aimed at eliminating the barriers faced by out-of-state teachers and administrators who wish to obtain a California teaching or administrative credential. AB 877 establishes the necessary course, testing, and experience requirements out-of-state and out-of-country teachers and administrators must meet in order to obtain a California credential. This eliminates the previous need for many out-of-state and out-of-country teachers and administrators to meet requirements they had already completed outside of California.

AB 877 also requires triennial review of specific areas of teacher preparation in other states, including subject matter programs, subject matter examination, reading instruction, and credential emphasis programs, such as programs for English language learners. The proposed allocation for these reviews is \$500,000.

Strengthening the System of Credentialing Teachers

For the past decade, California policy-makers, most notably the staff and advisors to CTC, have been working to strengthen the system for credentialing teachers in the state. In particular, CTC has been reviewing credentialing requirements in response to recommendations from the Advisory Panel established by SB 1422. These recommendations proposed “a new “architecture” for the teacher preparation and certification system.”²² The main feature of this new architecture is a two-tiered credential structure: Level I credentials would be awarded on completion of a teacher preparation program, including student teaching and an assessment of candidates’ skills, and Level II credentials would be awarded following completion of an induction program and a formative evaluation. We review ongoing efforts in credentialing here, although there are few major changes from the last legislative session.

Passed in 1998 and responding directly to recommendations from the SB 1422 panel, SB 2042 set several efforts in motion. A new panel, the Advisory Panel for the Development of Teacher Preparation Standards was established by CTC in September 1998 and is focusing “on the development of standards to guide (1) initial teacher preparation, (2) the quality of teaching performance assessments that meet the requirements of SB 2042, and (3) completion of an induction program during the beginning years of teaching.”²³ Following an extensive review of standards documents, the Advisory Panel presented a draft format for the new standards in 1999, which included four elements: program requirements for teacher preparation programs, candidate outcomes, program indicators, and candidate outcome indicators. Draft standards will be presented to CTC in the fall of 2000.

In addition, SB 2042 called for the establishment of teaching performance expectations and a teaching performance assessment. As a result, CTC has contracted with WestEd to develop draft teaching performance expectations and draft content specifications for the Multiple Subjects Assessment for Teachers (MSAT). The results of these tasks are expected to be presented to CTC in late 2000.

SB 2042 also required that CTC ensure that subject matter standards and examinations for teachers are aligned with the state content and performance standards for pupils.²⁴ The Elementary Subject Matter Advisory Panel was appointed to meet this requirement and is expected to present policy recommendations to CTC in late 2000. The Panel is currently conducting policy studies and developing recommendations for improvement in subject matter preparation and performance of K-8 teachers. This work

will inform the work of WestEd and the Advisory Panel for the Development of Teacher Preparation Standards.

After receiving recommendations and drafts from the advisory panels and WestEd, CTC will launch a field review and validity study of their draft standards, subject matter content specifications, and teaching performance expectations.²⁵ As a result of this review and validity study, standards will be revised and presented to CTC for adoption. The development of a draft teaching performance assessment (TPA) and the revision of the MSAT are expected to be complete by 2002.

Strengthening the Current Teacher Workforce

As California struggles to attract and prepare a sufficient number of candidates for teaching, especially in areas of greatest need, it also faces the challenge of supporting the 290,000 teachers currently in the state's classrooms. In this section, we review recent policy initiatives to strengthen the current teacher workforce. We focus first on induction—support for new teachers in the profession—an area where California has been aggressive in providing resources. Next we examine new initiatives in the broad area of ongoing professional development for teachers.

Induction Support

Over the past decade, the state has become increasingly active in creating programs to support teachers just entering the profession. The core state induction effort is the Beginning Teacher Support and Assessment (BTSA) program, which was authorized by SB 1422 in 1992. SB 1422 called for “the gradual phase-in of support and assessment for all beginning teachers in California.”²⁶ The state has been working toward this goal: following 4 years of slow growth, the BTSA budget was nearly quadrupled in 1998-99 to bring the program “to scale”—that is, the state has expressed the intention to provide sufficient resources for all new teachers with preliminary credentials to receive support. The 2000-01 budget calls for a further increase in funding to \$88 million (Table 2).

Along with the growth in the budget, BTSA is serving larger numbers of teachers, reaching more than 12,000 in 1998-99—the last year for which we have actual numbers. Estimates for 1999-2000 are that the program doubled in size to serve approximately 23,500 teachers. Projections for 2000-01 are that 26,500 teachers will be served.

Still, we know that not all eligible teachers are being served. Of about 1,000 districts in the state, 180 do not have BTSA programs. And while there are sufficient

funds available to serve all newly credentialed teachers, some newly credentialed teachers are not served because local BTSA programs can still serve noncredentialed teachers in their schools.

**Table 2
BTSA Funding and Participant History**

Year	Funding	Number of Programs	Estimated Number of New Teachers Supported
1992-93	\$4.9 million	15	1,100
1993-94	\$4.8 million	30	2,300
1994-95	\$5.5 million	30	1,900
1995-96	\$5.5 million	29	1,900
1996-97	\$7.5 million	32	2,000
1997-98	\$17.5 million	73	5,500
1998-99	\$67.8 million	83	12,330
1999-00	\$72.0 million	132	23,500*
2000-01	\$88.8 million	145	26,500*

Sources: Mitchell et al. (1999), Mitchell et al. (1997), Bartell and Ownby (1994), Governor's Office of Child Development and Education (1998), CTC (1998), Office of the Secretary for Education (2000), and Budget and Fiscal Review Committee (2000).²⁷

* Estimate or projection.

In the 1999 special session of the Legislature, ABX1 1 replaced the California Mentor Teacher Project, which had funded support providers in many districts, with the California Peer Assistance and Review Program for Teachers (PAR). PAR is focused on struggling veteran teachers, but the legislation does state that a school district that receives PAR funds can expend those funds for BTSA and pre-intern and intern programs.

State Support for Professional Development

California has sought to develop a comprehensive system of support for professional development since the late 1980s and the passage of SB 1882, which established a three-pronged approach to professional development in the state: school improvement grants, regional consortia, and the California Subject Matter Projects (CSMPs). More recently, the passage of the Reading Instruction Development Program in 1997 signaled an intensification of the state's investment in professional development.

Following on the heels of statewide class size reduction (CSR), the Legislature launched new policies to equip teachers with the skills necessary to achieve the student learning gains promised by CSR. Expanding the initial concentration on early literacy, the Legislature increased budgets for 2000-01 for institutes in elementary math, algebra, high school English, English language development, the CSMP program, and technology professional development. A significant proportion of these budgets are targeted at teachers in schools scoring in the bottom half of the Academic Performance Index.

California Reading Initiative. Since its inception in 1996-97, the California Reading Initiative has sustained a state focus on early literacy. From 1996 through 2000, the state invested a total of \$169.2 million for developing teachers' knowledge of reading instruction. As part of this work, and as required by AB 1086, the State Board of Education, in consultation with the Commission on Teacher Credentialing, developed a list of approved providers of training in reading instruction. County offices of education, the California Reading and Literature Project, Success for All, and other private providers are all state-approved. Two of them, Open Court and the Consortium for Reading Excellence (CORE), have dominated teacher development in reading instruction since that time.

ABX1 2 (1999) expanded the state's efforts in reading with the establishment of the Reading Professional Development Institutes.²⁸ The 2000-01 budget includes \$23.9 million to expand training to 20,000 preK-3 teachers—including a second year for last year's teachers to become trainers—in the coming school year.

Professional Development Institutes (AB 2881). In addition to the reading institutes, AB 2881 called on the University of California Office of the President (UCOP) to develop additional institutes in areas legislators deemed critical. The 2000-01 budget provides over \$150 million in total for professional development institutes in math and English language development, as well as for expanding the reading institutes and the CSMP, all administered through UCOP.²⁹

UCOP's goal is ambitious: to serve more than 70,000 teachers, or nearly one-quarter of the teacher workforce, in 2000-01 alone. Table 3 details the budget for each type of institute and the number of teachers each is expected to serve.

**Table 3
California Professional Development Institutes and Subject Matter Projects,
2000-01**

Institute	Projected Number of Teachers Served*	Budget (2000-01)
Reading	23,959	\$48.8 million
Elementary Math	2,890	\$12.2 million
Algebra Academies	640	\$2.9 million
Algebra	4,380	\$12.6 million
High School Math	1,440	\$6.3 million
High School English	3,859	\$12 million
English Language Development	9,021	\$20 million
Subject Matter Projects	25,000	\$35.8 million
Total	71,189	\$150.5 million

Source: UCOP (2000).³⁰

*Includes the actual number of teachers already served in 2000-01, projections of additional teachers who will be served in 2000-01, and, in some cases, teachers who will be served in the following fiscal year.

UCOP has designed each institute to be an intensive summer or intersession experience for targeted teachers, following legislation that stipulates a minimum 40-hour institute, accompanied by between 80 and 120 hours of follow-up during the school year. The legislation directs that instruction at the institutes be consistent with state content standards and equip participants with techniques in ongoing diagnostic assessment and early intervention appropriate for that subject. Participants come in school teams, and each participant earns a stipend of \$1,000 to \$2,000 depending on the length of the institute. Finally, the selection criteria target schools at or below the 40th percentile on the API and schools with a high number of beginning or underqualified teachers. In addition to prioritizing schools with high numbers of beginning and underqualified teachers, the Legislature also encourages the institutes to offer credit toward a preparation program, if CTC certifies that the instruction at the institutes meets content standards.³¹

California Subject Matter Projects (CSMPs). SB 1882 (1988) gave resources to institutions of higher education to deliver intensive subject-matter-based professional development. Administered by the UC Office of the President and housed on UC and CSU campuses, the California Subject Matter Projects supported teachers in the areas of

writing, reading and literature, math, science, history and social science, world history, and international studies.

The 1998 reauthorization of the Subject Matter Projects directed the CSMPs to move to a school-team approach, with a more explicit goal of effecting schoolwide instructional reforms rather than changes in isolated classrooms of individual teachers. The majority (75%) of available institute slots are also reserved for teachers from schools at or below the 40th API percentile.³² The CSMPs received an increase of \$20 million to \$35 million in the 2000-01 budget, to increase the number of sites from approximately 100 to 170. They project serving a total of 25,000 teachers.

Professional Development. The California Professional Development Consortia were created to provide regional coordination, brokerage, and direct services to support the implementation of high-quality professional development at the local level. The goals of the Regional Consortia are to help schools and districts create, implement, and evaluate school and district development plans; facilitate collaborative learning agreements among school faculty; assist teachers in implementing the state curriculum frameworks; and build cooperative agreements between districts and institutions of higher education. Ten consortia were reauthorized for funding in 2000, with a budget of approximately \$4 million annually.

National Board Certification Support. National Board certification testifies to a teacher's knowledge of subject matter and instructional skills. The certification process itself constitutes important professional development for the candidate, incorporating self-reflection and inquiry of the teacher's own practice, as well as collaboration with peers.³³ At the beginning of 2000, 813 teachers in California were in the process of attaining their National Board certification,³⁴ and 339 teachers had already been certified.³⁵ Teachers can be certified in 19 areas based on subject matter and grade level, with another 4 areas under development for 2000-01. The 19 areas cover 87% of California's teachers.³⁶

The state is providing two forms of incentives for teachers to obtain National Board certification and to influence where they work: salary bonuses and subsidies to defray the cost of application. The California Certification Incentive Program (established in 1999 by AB 858) provides all teachers attaining National Board certification a one-time award of \$10,000. The 2000-01 budget earmarks \$5 million for continued rewards of this type. Senate Bill 1666 provides another \$20,000 to each National Board-certified teacher who

commits to working for 4 years in low-performing schools, defined as the bottom half of all schools on the API. The budget allocates \$10 million for these awards.

Through the Candidate Subsidy Program, the federal government reimburses candidates \$1,000 of the application fee, which is \$2,300 in 2000-01. California's share is \$197,000 in 2000-01, sufficient for 197 teachers. The state 2000-01 budget augments the federal program more than 10-fold with another \$2 million. Together, a total of 2,197 National Board-certification candidates can be subsidized, more than double the number of candidates currently in the process.³⁷

Additional State-Funded Professional Development Opportunities. The reading initiative, the CSMPs, and the professional development institutes provide clear signals about the priorities of the Governor's office and the Legislature. However, the state supports a number of other initiatives, including:

- **Support for mathematics.** The 1998 Budget Act provided \$28.5 million for staff development in mathematics. AB 2442 established the **Math Teacher Instruction Grant** program, which provided \$14.25 million over a 3-year period in grants to local districts to reimburse teachers for fees and materials arising from taking college and university mathematics classes. So far, 6,600 teachers from 182 districts have applied for reimbursement. AB 1331 (1998) authorized the **Mathematics Professional Development Grants**, providing \$43 million over 3 years in grants for in-service training in mathematics.
- **Advanced Placement (AP) teacher training.** The 2000-01 budget provides \$16.5 million for school-level grants of \$30,000 to provide additional training for AP teachers and improve student access to AP courses. The allocated budget is sufficient for up to 550 high schools, out of a statewide total of 935 schools that serve high school students.
- **Bilingual Teacher Training Program (BTTP).** Established by the Legislature in 1981, BTTP assists districts in providing specialized staff development for non-bilingual-licensed teachers who are working under waiver agreements with English language learners (ELLs). Funded at \$1.55 million in 1999-2000, the program is also collaborating with UCOP to develop and implement the English Language Development Institutes funded in the 2000-01 budget.³⁸
- **Middle Schools Demonstration program.** Total program funding for 1999-2000 was \$5.6 million and is slightly higher at \$5.78 million for 2000-01. Intended to assist middle school teachers in helping their students meet state and local standards, Middle School Demonstration grants average roughly \$30,000 per year for up to 3 years.³⁹ A total of 140 grants serve approximately 6,600 teachers.
- **Various state funds for technology professional development.** The 2000-01 budget includes several programs that support teachers' use of technology.

California State University receives \$6.5 million for a week-long teacher institute and 80 hours of follow-up in the use of technology for instructional programs.⁴⁰ The **Education Technology Staff Development Program for Grades 4 to 8** began in January 1999 and provides a maximum of \$20 per 4th-8th-grade pupil for their teachers to receive training in the use of education technology. In 1999-2000, a total of \$6.7 million (just over half of the \$12.4 million that was budgeted) went out to 11,200 4th- to 8th-grade classrooms and 335,400 students.⁴¹ The **Digital High School Program**, increased by \$188 million in the latest budget, requires that schools include a staff development component in their proposals. Finally, the **California Technology Assistance Project (CTAP)** comprises six regional service providers that support schools in technology resources, procurement, and professional development for teachers and technology coordinators. CTAP's total annual budget is roughly \$13 million, some portion of which is spent on training.

Other State Funds Available to Support Professional Development. Two other sources of funding are available to support professional development at the school level, the Immediate Intervention/Underperforming Schools Program (IIUSP) and the School Improvement and Pupil Achievement Block Grant. These funds also can be spent on a variety of other school-level expenses.

Immediate Intervention/Underperforming Schools Program (IIUSP). The special legislative session of 1999 established the Public School Performance Accountability Program, under which, among other provisions, 430 schools scoring below the 50th percentile on the API would be “invited” to participate in the Immediate Intervention/Underperforming Schools Program. In 1999, the first year of implementation, more than 430 schools volunteered to participate and received \$50,000 each to design a plan of action to improve student achievement with the assistance of evaluators from a state-approved list. By July 2000, the plans of nearly 400 schools were approved, making them eligible for grants of up to \$168 per pupil for up to 3 years to implement schoolwide reform efforts. This represents a significant amount of funding for an approved school—264 schools receive \$100,000 or more, the highest being \$600,000. The 2000-01 budget provides a one-time amount of \$22.6 million to fund \$50,000 planning grants for a second cohort of 430 schools.

School Improvement and Pupil Achievement Block Grant. This block grant totals \$425 million, \$180 million of which is provided to school sites to use for a variety of specified school expenditures, including instructional materials, staff development, computers and educational technology, and library materials. The remainder is provided to school districts for specified expenditures, including school safety, deferred

maintenance or facility improvements, technology staff development, or “educational technology connectivity.”⁴²

As we have reviewed above, a wide range of recent and ongoing policy initiatives are aimed at addressing the quality and effectiveness of the California teacher workforce. In the next chapter, we present updated data describing some of the problems these policy initiatives are intended to address, focusing in particular on the supply of, demand for, and distribution of qualified teachers in California.

III. THE CHALLENGE OF ENSURING THAT ALL STUDENTS HAVE A QUALIFIED AND EFFECTIVE TEACHER

DEMAND FOR TEACHERS

- Because of growing student enrollment, the implementation of class size reduction, and attrition and retirement from the teaching profession, the demand for teachers in California has increased nearly 48% since the late 1980s and is expected to continue to increase.
- In 1999-2000, there were approximately 291,000 teachers in K-12 classrooms throughout California, compared with approximately 197,000 teachers in 1988-89.

TEACHER PREPARATION

- Overall, the number of newly credentialed teachers prepared in California increased during the 1990s, reaching more than 17,000 in 1998-99.
- In terms of "market share," the public CSU and UC systems lost ground during the first half of the decade. Since 1994-95, however, CSU has slightly outpaced independents in the production of new teachers, and its market share has stabilized at around 53%.
- Over the past 7 years, the number of intern programs has more than doubled, and the number of individuals with internship credentials has increased nearly threefold.
- New pre-intern programs are serving 7,800 individuals in 2000-01.

UNDERQUALIFIED TEACHERS

- Schools report that in 1999-2000 there were more than 40,000 individuals who did not hold preliminary or professional clear credentials in California classrooms, representing about 14% of the workforce.
- There are more underqualified teachers in certain subject areas, such as special education, math, and science.
- Underqualified teachers are not evenly distributed. Whereas some schools have no or few underqualified teachers, 21% of schools have over 20% underqualified teachers on staff. This maldistribution has worsened slightly in the last 3 years.
- Overall, students in low-performing schools with high percentages of poor and minority students continue to be the most likely to have underqualified teachers.

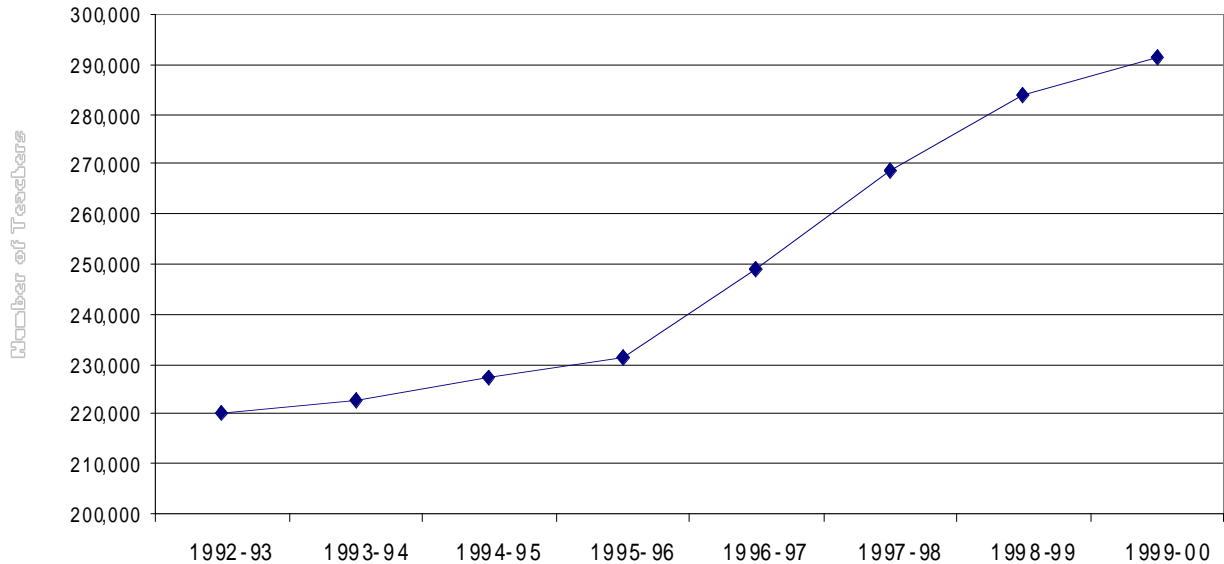
Teaching and California's Future has documented the lack of a sufficient number of qualified teachers willing to take jobs in California public school classrooms a number of times over the past few years.⁴³ Here we update the available data. We review historical and current trends on the demand for teachers and then describe the analogous trends in the supply of qualified teachers. These analyses provide the basis for an in-depth examination of the gap between the demand for qualified teachers and the supply of such teachers in our classrooms. In particular, we focus on the distribution of qualified and underqualified teachers across schools and districts. Our findings are all too familiar: students in high-poverty, low-achieving schools with high proportions of ethnic minority students are much more likely to have an underqualified teacher.

The Demand for Teachers in California's Classrooms

The demand for teachers in California has grown dramatically during the 1990s and is expected to continue to increase. Since the late 1980s, the size of the teacher workforce has increased nearly 48%. In 1999-2000, there were approximately 291,000 teachers in K-12 classrooms throughout California,⁴⁴ compared with approximately 197,000 teachers in 1988-89.⁴⁵ Figure 1 illustrates the historical demand for teachers in California.

This increase in the demand for teachers can be traced to three factors. First is the growth in student enrollment. From 1989-90 to 1999-2000, the number of students enrolled in California public schools grew by approximately 1.2 million, or 25%, totaling nearly 6 million.⁴⁶ Second, the implementation of class size reduction (CSR), beginning in 1996-97, created the need for more teachers in grades K-3. In its first year of statewide implementation, the CSR initiative increased the demand for new elementary teachers by 115% over the previous year.⁴⁷ Finally, the demand for teachers is also driven by the regular attrition and retirement of working teachers.

Figure 1
Historical Demand for Teachers in California, 1992-93 to 1999-2000



Sources: CDE (1998,1999, 2000).⁴⁸

Looking forward, we can expect the demand for teachers to continue to grow. Though student-teacher ratios are expected to remain relatively constant (barring any policy decisions to reduce class sizes further), student enrollment will continue to grow, from just under 6 million K-12 students in 1998-99 to 6.2 million students in 2007-08, fueling the demand for more qualified teachers.⁴⁹ In addition, we can expect teacher retirement rates to increase steadily—perhaps drastically—as baby boomers are now reaching the height of their careers and beginning to retire. According to the annual report of the State Teachers’ Retirement System (STRS), 54% of all active STRS members were more than 42 years old, and one-third were 50 or older in 1999-2000.⁵⁰ Using conservative assumptions, we estimate that the annual retirement *rate* for STRS members will increase steadily, peaking in 2007-08 at 2.65 times the average rate between 1991 and 1999.

The Supply of Qualified Teachers in California’s Classrooms

Given a rising demand for teachers, is there a sufficient supply of qualified teachers to meet the demand? We define the supply of qualified teachers as the number of

teachers who hold preliminary or professional clear credentials *and* who are willing to take jobs at the salary, assignment, location, and working conditions offered.

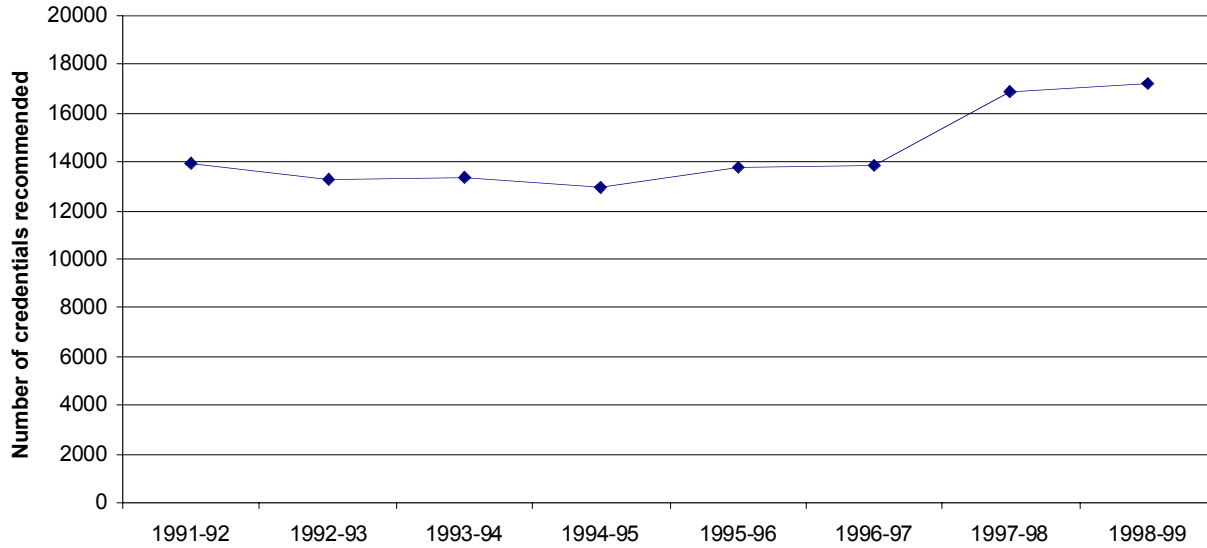
There are multiple sources of qualified teachers to meet the annual demand, the largest of which is the base of veteran credentialed teachers each year who do not leave the profession. In addition, there are teachers who have left teaching for a period of time—whether for personal reasons (to raise a family), professional ones (to pursue other career interests), or economic ones (to pursue more lucrative jobs)—and have later reentered the teacher workforce. Little is known about the number of potential reentrants in California, how many actually return to teaching each year, or the reasons why they decide to do so.

A third source of qualified teachers is newly credentialed teachers. Below, we focus on the production of newly credentialed candidates because this is the one source of new teachers most easily influenced by policy and budgetary decisions.

New Teachers Entering the Profession

Overall, the number of newly credentialed teachers prepared in California increased during the 1990s. During the first half of the decade, the number of first-time/new-type multiple- and single-subject credentials issued annually declined slightly, from about 14,000 in 1991-92 to about 13,500 in 1994-95. However, beginning with the 1995-96 school year, the number of newly credentialed teachers began to rise, reaching more than 17,000 in 1998-99 (Figure 2).

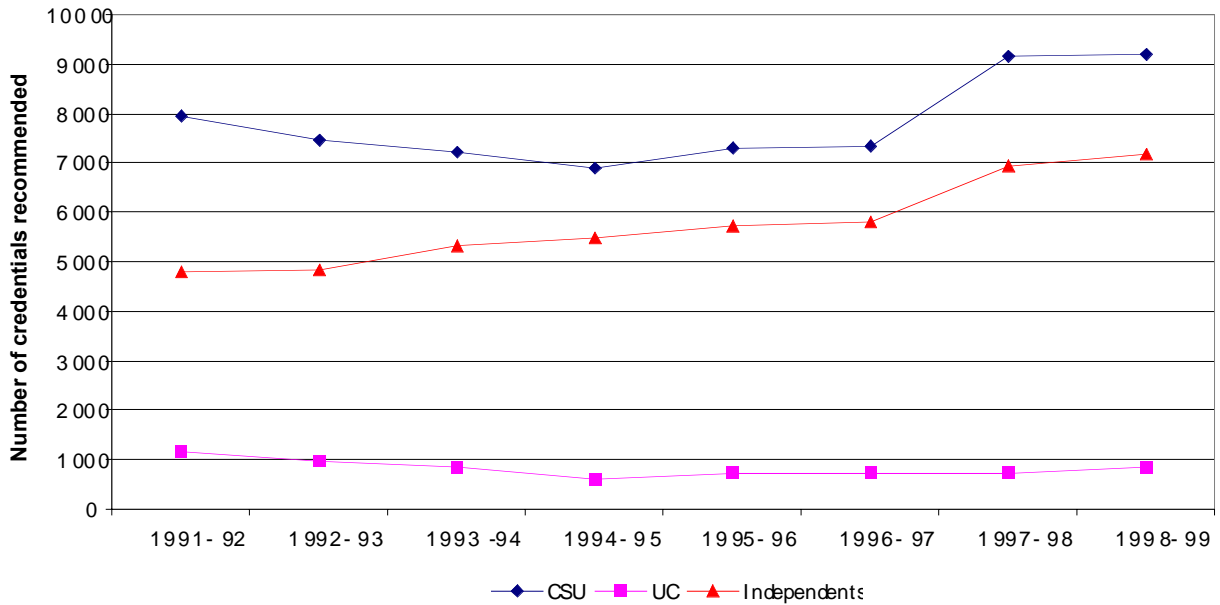
Figure 2
First-Time and New-Type Multiple- and Single-Subject Credentials Recommended



Sources: CTC (1998, 1999, 2000).⁵¹ Numbers include preliminary, professional clear, and internship credentials.

Of the 72 state-accredited teacher preparation programs in California, nearly all increased their production of new teachers during the 1990s. As shown in Figure 3, the 22-campus California State University system is the largest producer of credentialed teachers in the state, recommending nearly 8,000 candidates in 1991-92 and about 9,200 candidates in 1998-99. The 43 private and independent universities recommended just under 5,000 new credentials in 1991-92 and just over 7,000 new credentials in 1998-99. Meanwhile, the University of California system prepared about 900 teacher candidates per year, a number expected to double by 2002-03.

Figure 3
First-Time and New-Type Multiple- and Single-Subject Credentials Recommended
by CSU, UC, and Independent Institutions, 1991-92 to 1998-99



Sources: CTC (1998, 1999, 2000).⁵² Numbers include preliminary, professional clear, and internship credentials.

In terms of “market share,” the public teacher preparation systems lost ground during the first half of the decade, as indicated by both the decreasing number of credentials they recommended and the increase in the number of credentials that independent institutions recommended during that same period. From 1991-92 to 1994-95, the CSU and UC teacher preparation systems went from preparing 66% of newly credentialed teachers in the state to 58%. During this decline of the public university systems’ market share, the private and independent systems rose steadily from 34% in 1991-92 to 42% in 1994-95. However, since 1994-95, CSU has slightly outpaced independents as a whole in the production of new teachers, and its market share has stabilized at around 53%.

Trends in the production of teacher candidates at individual CSU campuses have varied. Some have increased teacher candidate production significantly over time. For example, CSU Hayward increased teacher production steadily from 1994-95 to 1998-99, growing from 275 to 691 credentials. Other campuses have experienced less growth, or even declines in the numbers of new credentials they recommended during the same time

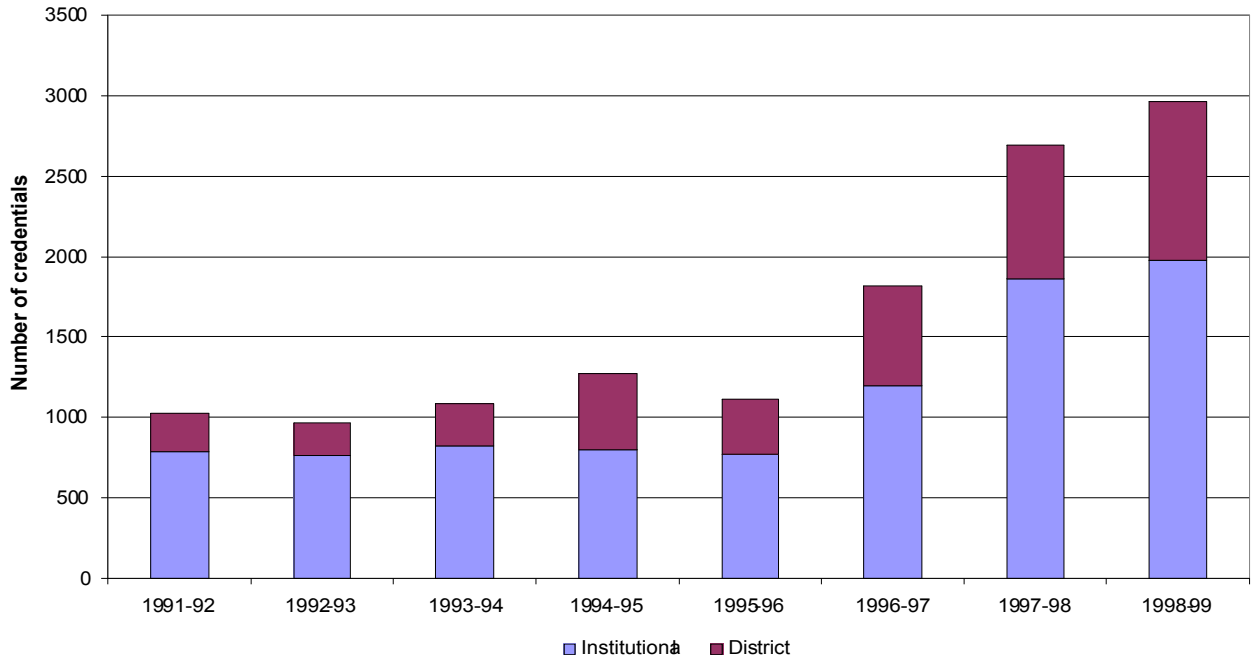
period, such as CSU Long Beach, whose candidate production has remained in the 500s and even shows a slight decline between 1994-95 and 1998-99. The trends across individual University of California campuses are similarly mixed, though the overall numbers of teachers they produce are much smaller than those at CSU campuses. Among the independent institutions, a few have experienced dramatic growth over the past decade. In particular, National University has shown a remarkable recent increase in the number of first-time and new-type credentials recommended, from about 1,000 in 1991-92 to 2,200 in 1998-99.

Preparation for New Classroom Teachers without a Proper Credential

Some new teachers have not yet completed a preparation program. These individuals have two program available to support them: the Intern program for teachers who are concurrently enrolled in a teacher preparation program while teaching as the teacher of record and the Pre-intern program for teachers who are not yet enrolled in such a program and who are teaching as the teacher of record. Although they are not direct sources of new “qualified” teachers, these programs are two routes into teaching chosen by a growing number of individuals.

Participants in Intern programs have a bachelor’s degree and have passed subject matter requirements. While working as the teacher of record, interns are enrolled in a planned course of study and receive support from mentor teachers and/or IHE faculty. Over the past 7 years, the number of programs has more than doubled, and the number of individuals with internship credentials has increased nearly three fold (Figure 4).

**Figure 4
Institutional and District Intern Credentials, 1991-92 to 1998-99**



Sources: CTC (1998, 2000).⁵³

Both IHEs and school districts offer internship programs, but they are found mainly on CSU campuses and in some large school districts. In 1999-2000, there were 65 intern programs, all but 8 of which were led by IHEs.

In addition, the state also provides programmatic support to “pre-interns,” individuals who lack both the proper teacher preparation and the subject matter preparation. In 1999-2000, 5,800 individuals participated in a pre-intern program. In the current year (2000-01), pre-intern programs are serving 7,800 individuals.⁵⁴

These programs are discussed from a policy perspective in the previous chapter. In the following section, we describe the extent to which the overall increase in the production of new teachers is meeting the growing demand for teachers.

Underqualified Teachers: The Gap between Demand and Supply

The increased expansion of the teacher preparation system has not produced enough teacher candidates willing to take available jobs in order to meet the demand created by growth in student enrollment, class size reduction, and teacher attrition and retirement. California is currently far from its goal of placing a qualified teacher in every classroom.

In fact, it is short tens of thousands of teachers, and, worse, the problem is disproportionately concentrated in urban and low-performing schools serving poor and minority students.

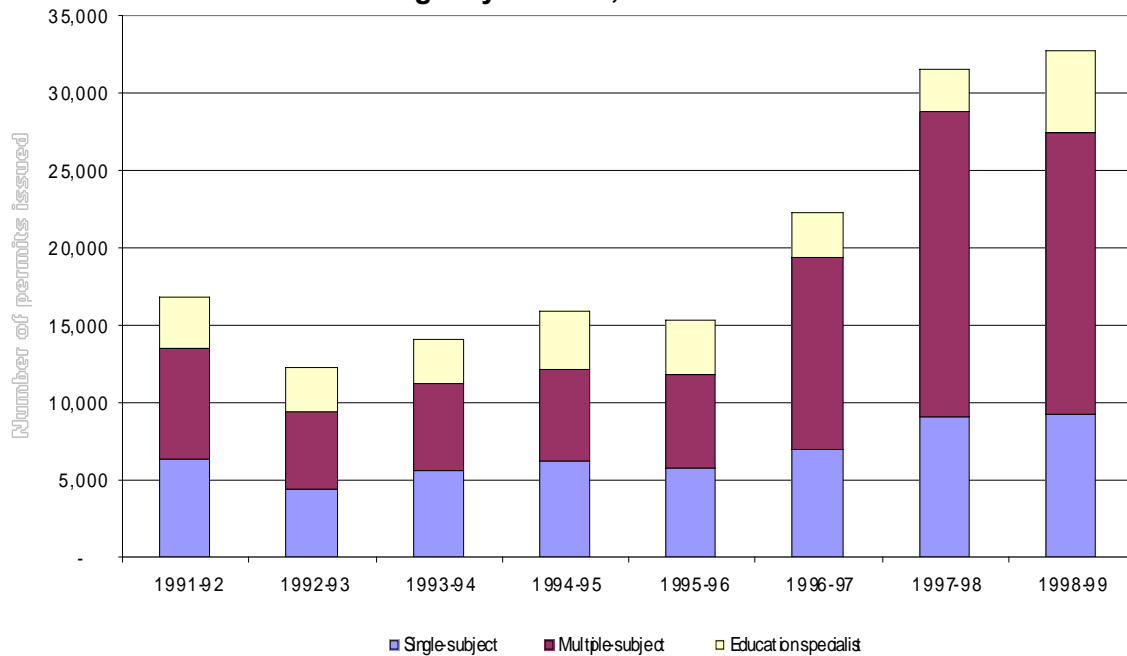
A shortfall in qualified teachers willing to take available teaching jobs does not usually mean that the classrooms sit empty. California has enacted several policies designed to enable districts to fill job vacancies that they cannot fill with fully credentialed teachers. First, as described above, the Intern and Pre-intern programs are designed to support underqualified teachers who are already the teacher of record in a classroom. In addition, many classrooms are occupied by teachers with emergency permits.*

For the first half of the 1990s, the number of classroom teachers holding multiple-subject, single-subject, or education specialist emergency permits ranged from about 12,000 to over 16,000, representing from 5.5% to 7.6% of the teacher workforce. Following the implementation of class size reduction, the number of teachers with emergency permits increased to over 18,000 in 1996-97 and climbed to 32,700 in 1998-99, or about 11.5% of the workforce.⁵⁵ Figure 5 shows that the rise in emergency permits through the 1990s involved particularly multiple-subject and special education assignments.

In addition to emergency permit holders, there are also waiver holders who staff the classrooms that cannot be filled with qualified teachers. Waivers are issued to individuals who have not met the requirements to qualify for an emergency permit. In 1998-99, more than 3,300 single-subject, multiple-subject, or special education waivers were issued.⁵⁶

* The minimum requirements for an emergency single- or multiple-subject teaching permit are completion of a bachelor's degree, passage of the California Basic Education Skills Test (CBEST), and verification of subject matter competence at a level established in regulation for the emergency permit. Individuals serving on an emergency permit must enroll in a CTC-approved professional preparation program for the credential and complete a minimum of six semester units of coursework each year to renew the permit. Emergency permits can be renewed for only five consecutive years, after which individuals on emergency permits wishing to remain in teaching must achieve a preliminary or professional clear credential.

**Figure 5
Total Emergency Permits, 1991-92 to 1998-99**



Sources: CTC (1998, 1999, 2000).⁵⁷

Comparable data on the number and percentage of emergency teachers and waiver holders in California are not yet available for the 1999-2000 school year, but data from other sources indicate that their numbers have continued to rise. One CDE report shows that 37,000 California teachers reported having an emergency permit in 1999-2000.⁵⁸ An SRI analysis of school-level data files from the California Basic Education Data System shows that, in total, more than 40,000 California teachers in 1999-2000 hold an emergency permit, intern credential, or waiver, representing about 14% of all classroom teachers in the state.⁵⁹

Subject Area Shortages

Certain subject areas face more severe shortages than others and, as a result, have disproportionate percentages of underqualified teachers. As has been the case for decades, teachers in areas such as special education, science, and mathematics continue to be in especially short supply. In addition, a large number of emergency permits have been issued in elementary education since the implementation of class size reduction, as shown by the numbers of multiple-subject permits in Figure 5.

Special Education Teachers. One indication of the shortage of special education teachers is the number of emergency permits issued in this area. In 1998-99, roughly 5,200 emergency permits were issued in special education, compared with 2,500 credentials.⁶⁰ The number of emergency permits appears to have increased from approximately 3,200 emergency permits the previous year, and the number of credentials issued was down from 2,700.⁶¹

Teachers of Mathematics and Science. Traditionally, mathematics and science have been recognized as subject areas lacking sufficient numbers of teachers. Among secondary (high school) subject areas, math and science are the subjects with the largest numbers of emergency permit holders. Compared with the average of 8% underqualified teachers across all secondary areas, 12% of all math teachers in the state were underqualified in 1999-2000.⁶² Likewise, 11% and 12% were underqualified in life science and physical science, respectively. The extent of these subject area shortages also varies between schools. For example, in 1999-2000, schools in which more than 75% of the students received a free or reduced-price lunch had, on average, twice as many underqualified teachers on staff as schools where fewer than 25% of the students received a free or reduced-price lunch.⁶³ We turn next to a more detailed discussion of the distribution of underqualified teachers by school-level characteristics.

The Distribution of Underqualified Teachers in California's Classrooms

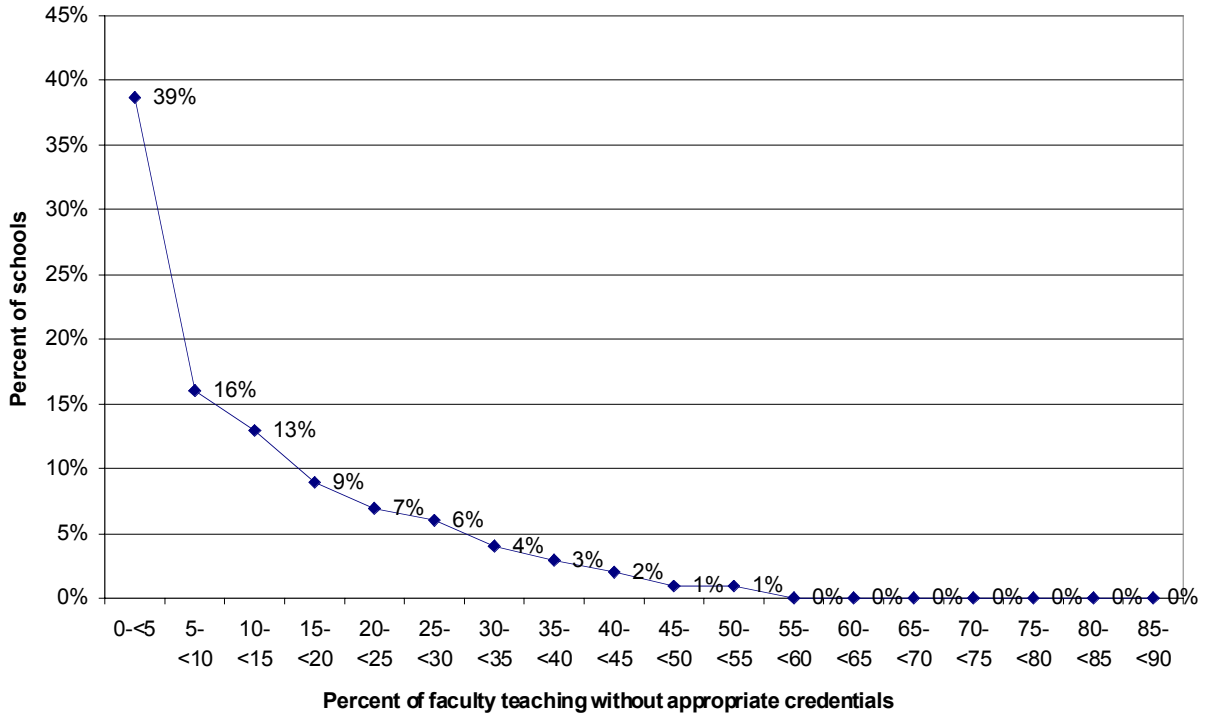
Clearly, California is not meeting its goal of staffing every California classroom with a qualified teacher. As we described above, 14% of all classroom teachers in California are underqualified. The *average* proportion of underqualified teachers in individual schools is 12.5%. The average, however, does not reflect the uneven distribution of underqualified teachers among schools. We turn next to a description of this maldistribution.

Statewide Distribution of Underqualified Teachers

There are many schools with no or relatively few underqualified teachers. In 1999-2000, 39% of the schools in the state had fewer than 5% underqualified teachers (Figure 6).⁶⁴ In fact, 30% of schools had no underqualified teachers at all, up from 27% in 1998-99 and 24% in 1997-98. At the other extreme, 24% of California schools had 20% or more underqualified teachers, up from 21% in 1998-99 and 20% in 1997-98.⁶⁵ This most critically affected subset includes over 1,600 schools, which enroll over 1.5 million children in total.

In short, underqualified teachers are not distributed evenly among California's schools, and it appears that the maldistribution has worsened since 1997-98. While the number of schools with no underqualified teachers has increased, so too has number of schools with at least 20% underqualified teachers.

Figure 6
Statewide Distribution of Underqualified Teachers, 1999-2000

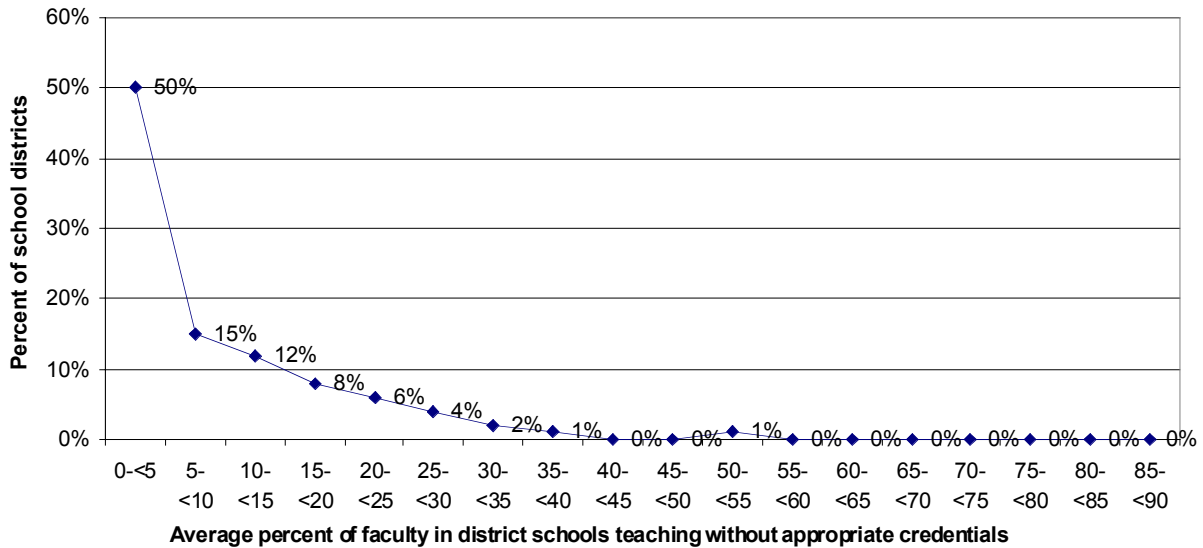


Sources: CDE (2000), SRI analysis.⁶⁶

Distribution of Underqualified Teachers between Districts

Concentrations of underqualified teachers are not limited to a few large districts. As Figure 7 shows, in 1999-2000, 14%, or almost one in every seven California school districts, have 20% or more underqualified teachers—up from about 12% in the previous two years. On the other hand, half of the state's school districts have fewer than 5% underqualified teachers, and 26% have no underqualified teachers at all (about the same as in 1998-99 and 3 percentage points more than in 1997-98).

Figure 7
Distribution of Underqualified Teachers in California School Districts, 1999-2000

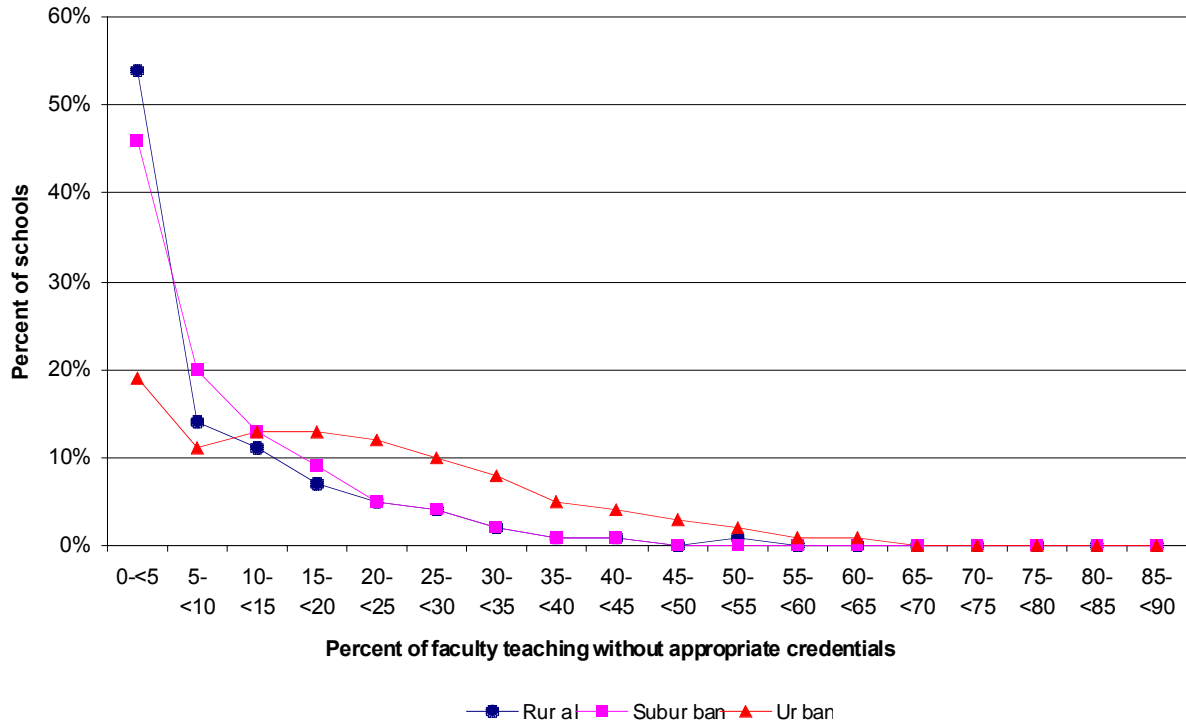


Sources: CDE (2000), SRI analysis.⁶⁷

Distribution of Underqualified Teachers, by Urbanicity of School Site

The distribution of underqualified teachers also varies by a number of school-level characteristics, including the urbanicity of the school site and the demographics of the student population. Overall, urban areas face more severe shortages than suburban and rural areas. Compared with the school-level average of 12.5%, urban schools had, on average, about 20% underqualified teachers in 1999-2000 (slightly higher than the preceding year), whereas suburban schools and rural schools had about 9% (about 1 percentage point higher than the preceding year). As Figure 8 shows, the distributions of underqualified teachers in rural and suburban districts were similar to each other and similar to the statewide distribution, with about half of schools (54% and 46%, respectively) having fewer than 5% underqualified teachers. In contrast, only 19% of urban schools had fewer than 5% underqualified teachers, and 46% had 20% or more underqualified teachers in their classrooms.

Figure 8
Distribution of Underqualified Teachers, by Urbanicity of School Site, 1999-2000

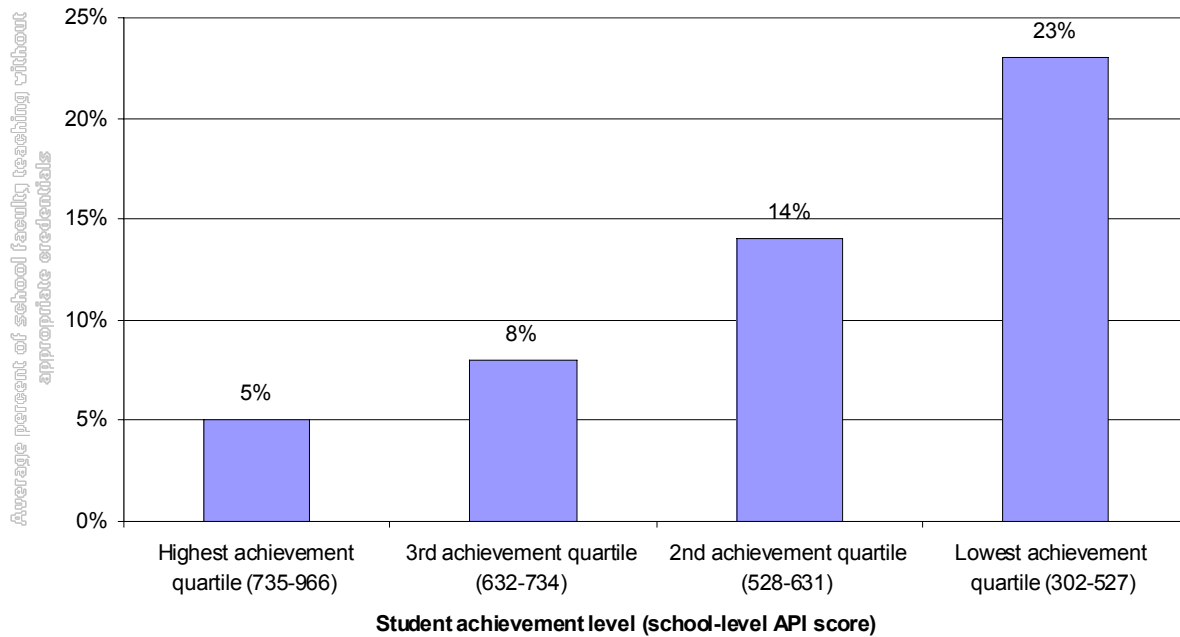


Sources: CDE (2000), SRI analysis.⁶⁸

Distribution of Underqualified Teachers, by Student Characteristics

Student achievement. Who are the children most likely to be taught by an underqualified teacher? In short, they are the students who can least afford it—those whose achievement puts them at risk of school failure without effective intervention. Analysis of school-level scores on the state’s Academic Performance Index (API) shows that schools where students are achieving at the lowest levels have, on average, over 4 times as many underqualified teachers as high-achieving schools (Figure 9). Statewide, those schools with the highest API scores have, on average, only 5% underqualified teachers, well below the school-level average of 12.5%. In contrast, those schools with the lowest API scores have, on average, 23% underqualified teachers—close to double the state average. Roughly 1,500 schools fall into each of these quartiles.

Figure 9
Proportion of Underqualified Teachers, by School-Level API Score, 1999-2000

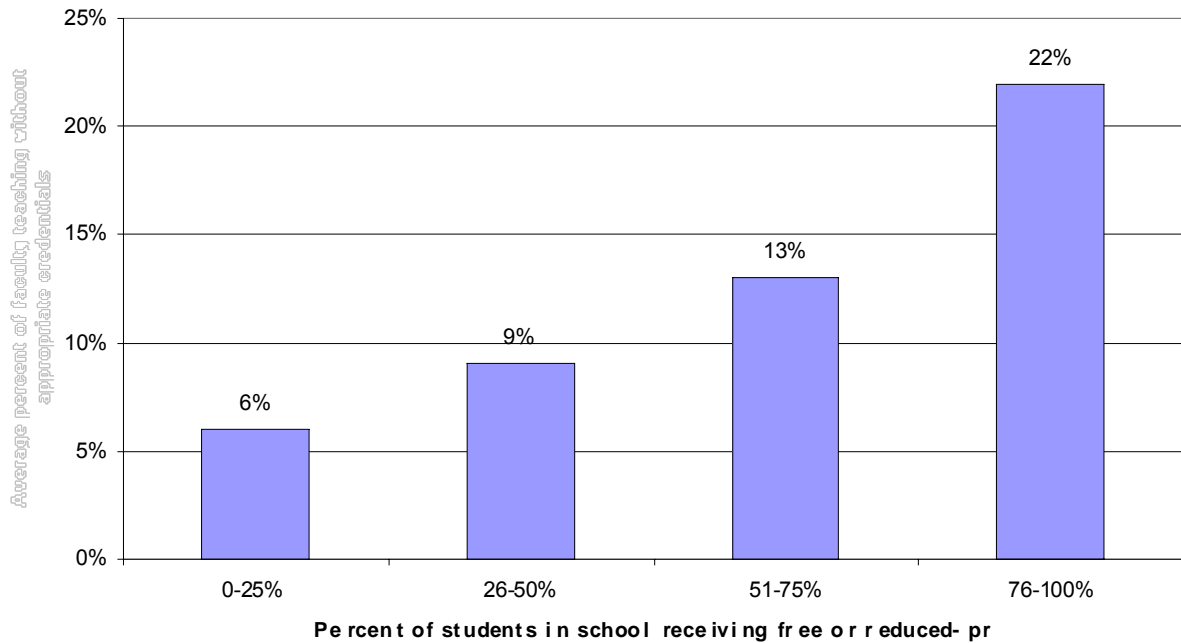


Sources: CDE (2000), API (2000), SRI analysis.⁶⁹

The schools with the highest concentrations of underqualified teachers share other characteristics besides low achievement; they also tend to have more poor and minority students.

Student poverty level. As shown in Figure 10, schools with the highest percentages of students receiving a free or reduced-price lunch (a proxy for the poverty level of the student population) continue to have the highest percentages of underqualified teachers. In 1999-2000, schools in which more than 75% of the students received a free or reduced-price lunch had, on average, 22% underqualified teachers on staff, up from 21% in 1998-99 and 19% in 1997-98.⁷⁰ It is important to note that nearly 1,700 schools—about a quarter of all schools in California—fall into the highest poverty category. In schools where 25% or fewer students received a free or reduced-price lunch, there were, on average, only 6% underqualified teachers, the same as in 1997-98.

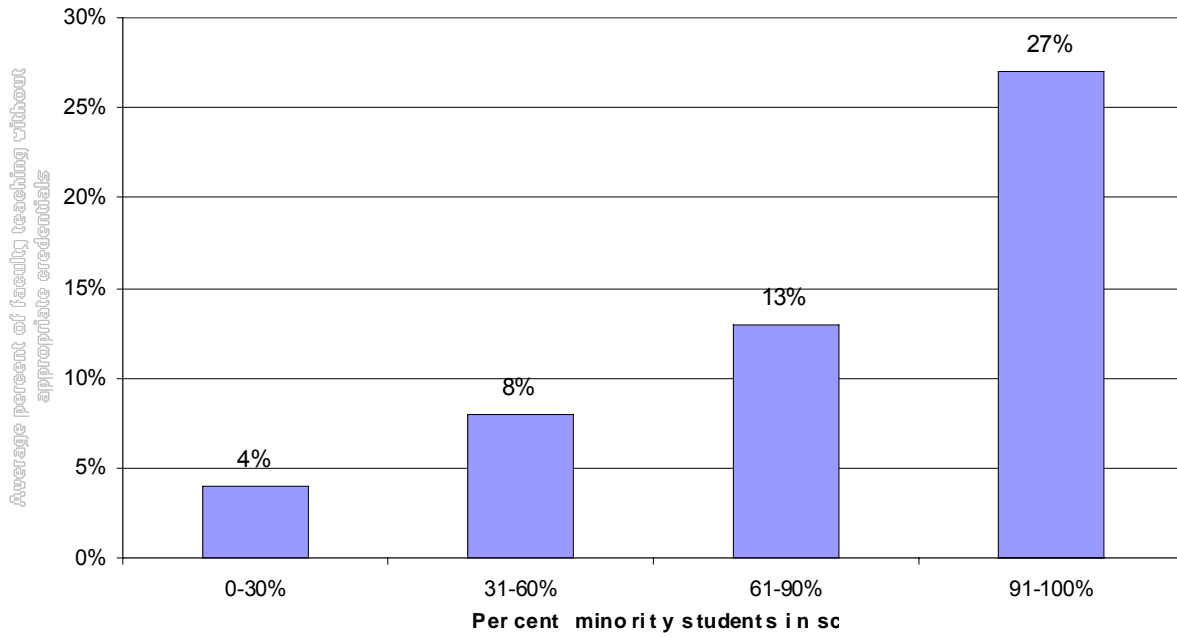
Figure 10
Distribution of Underqualified Teachers, by Student Poverty Level, 1999-2000



Sources: CDE (2000), API (2000), SRI analysis.⁷¹

Similarly, Figure 11 shows that in 1999-2000, schools with more than 90% minority students had, on average, 27% underqualified teachers on staff, up from 25% in 1998-99 and 23% in 1997-98. This group consists of nearly 1,400 schools, or nearly 20% of all California schools. Schools with the fewest minority students had, on average, only 4% underqualified teachers—slightly higher than in 1998-99.

Figure 11
Distribution of Underqualified Teachers, by Percent Minority Students



Sources: CDE (2000), API (2000), SRI analysis.⁷²

These numbers make a compelling case: California is not meeting its goal of placing a qualified teacher in every classroom, and the students who most need a high-quality instructional experience are those least likely to get it. In response to these problems, policy-makers have initiated a set of new programs and allocated new resources, as we detailed in the second chapter of this report. As these programs are put in place and the resources become available, policy-makers will be seeking evidence of the effects of their efforts. In the following chapter, we point out the key questions that policy-makers will want answers to and discuss some of the efforts underway to get those answers.

IV. CONTINUING TO MEET THE CHALLENGE OF PROVIDING ALL CHILDREN WITH A QUALIFIED AND EFFECTIVE TEACHER

IMPORTANT QUESTIONS FOR POLICY-MAKERS

Are current policies ensuring that every California classroom has a qualified teacher?

- Given extensive investment in teacher preparation, recruitment, and induction, it will be important to understand how the various policies interact in particular settings, and to track whether these efforts are having their intended effect in all classrooms.

Is California succeeding in staffing the hardest-to-staff schools?

- Although many new initiatives target hard-to-staff schools, it remains to be seen whether they, along with other investments, are focused and powerful enough to reverse the concentration of underqualified teachers in schools serving high numbers of poor and minority students.

Is the teacher preparation system producing enough qualified and effective candidates willing and able to take jobs?

- It will be important to track the progress and the challenges of the teacher preparation system as it seeks to increase production and open alternative routes while bolstering quality at the same time.

Does the teacher development system have the capacity to support all California teachers?

- The scaling up of support programs to serve large numbers of teachers raises a host of capacity questions, particularly for hard-to-staff schools, where it is especially critical that professional development opportunities provide teachers with the skills, knowledge, and attitudes necessary to help students reach standards.

Is California creating a more coherent system of support for teacher development?

- As the teacher development landscape gets more crowded, it will be important to examine whether district, school, and individual teacher professional development plans are supported or hindered by state policies.

STRENGTHENING THE SYSTEM FOR ASSESSING THE STATUS OF THE TEACHING PROFESSION

- Unfortunately, the state's current system of data collection, management, and reporting does not produce easily accessible and reliable data in several key areas related to supply, demand, and distribution of teachers. An improved data collection and analysis system is needed to help policy-makers decide where to direct attention and investments in the areas of teacher preparation, recruitment, and induction.

In this report, we have documented the major efforts by the Governor and the Legislature to strengthen the teacher workforce in the state. Initiatives have been launched or bolstered in the areas of preparation, recruitment, compensation, induction support, and professional development. In addition, districts have received a boost in funds to improve local working conditions and increase teacher pay. Policy-makers' goal is for these initiatives—in combination—to build a teacher workforce capable of providing each California schoolchild the education needed to meet the state's tough new standards.

We also have documented the challenge that policy-makers—and practitioners seeking to implement new initiatives—face. The number of classrooms headed by a teacher without proper credentials continued to rise even as new policies were developed. The distribution of underqualified teachers continues to be skewed: poor, minority, and low-achieving students are still much more likely than their more advantaged peers to have a teacher without proper credentials. Schools throughout the state are having a difficult time finding qualified teachers in certain subject areas, such as mathematics, science, and special education.

Because the recent policy initiatives are just now being put in place, it is not yet known how well they will ameliorate these problems. Yet the severity of the shortage of teachers in California classrooms, combined with the need to strengthen the current workforce, suggests that success will not come quickly. More likely, policy-makers and practitioners will need to maintain a persistent focus on strengthening the teacher workforce. In doing so, they will need to strike a balance between fine-tuning the current set of initiatives and developing new policies and programs. Access to reliable information on the impacts of efforts to strengthen the teacher workforce will be critical to making judgments about how to proceed during the next legislative session.

In this chapter, we discuss those questions and answers that will be most likely to inform legislative decision-making:

- Are current policies ensuring that every California classroom has a qualified teacher?
- Are we succeeding in staffing the hardest-to-staff schools?
- Is the teacher preparation system producing enough qualified and effective candidates willing and able to take jobs?
- Does the teacher development system have the capacity to support the professional growth of all California teachers?

- Is California creating a more coherent system of support for teacher development?

To answer these questions, policy-makers have a continuing need for more accurate and timely data. We conclude the chapter with a discussion of promising efforts to gather new information, as well as the significant gap in the state's database systems. Finally, we summarize some of the key efforts to gather original data, including the next phase of research sponsored by *Teaching and California's Future*.

Are Current Policies Ensuring That Every California Classroom Has a Qualified Teacher?

The recent set of policy initiatives attacked the shortage of qualified teachers on many fronts. Statewide, regional, and local recruitment initiatives, along with increased resources to bolster beginning teacher salaries, were designed to attract more teachers into the profession. Increased investment in the Intern program, in combination with CSU's commitments to expanding programs, targeted the increased production of new teacher candidates. Continued BTSA expansion and new professional development initiatives support teachers in order to, among other purposes, stem attrition from the profession.

Given this investment, it will be important to track whether the efforts are having the intended effect of ensuring that every California classroom is staffed by a fully qualified and effective teacher. Tracking the number of candidates in teacher preparation programs, the production of credential candidates, and the job-taking and attrition rates will provide policy-makers with the information they need to know which policies are having their intended effect and why, to understand how the various policies interact in particular settings, and to devise ways of building on strengths and shoring up weak areas.

Is California Succeeding in Staffing the Hardest-to-Staff Schools?

Perhaps the most troubling aspect of the teacher shortage is maldistribution of underqualified teachers, so that those students most in need of an effective instructional program are most likely to have a teacher without proper preparation. This problem is especially severe in the schools in the state with large numbers of poor, minority, and English language learner students. In such schools, teachers and administrators are hard pressed to provide adequate professional support to their entire faculty.⁷³ In these hard-to-staff schools, a child's opportunities to receive the kind of instruction needed to meet the state standards are severely compromised. As we have documented, there are large

numbers of schools with high concentrations of underqualified teachers. Indeed, one in five schools in the state have at least 20% of their teachers falling into this category.

Recent policy initiatives target low-performing schools in general, with some emphasis on hard-to-staff schools. The Teacher Recruitment Initiative Program (TRIP) provides resources to recruit teachers to low-performing schools, and hard-to-staff schools in particular. The Teaching as a Priority (TAP) block grant allocates money to districts for recruitment activities on the basis of the number of low-performing students. The Governor's Teaching Fellowships are targeted on candidates who agree to teach in low-performing schools. The Assumption Program of Loans for Education (APLE) subsidizes loans for teachers who agree to teach in a hard-to-staff or low-performing school.

Although all these programs target a critical need, it remains to be seen whether they, along with other investments, are focused and powerful enough to reverse the increase and concentration of underqualified teachers. Tracking the trends in the number and location of underqualified teachers will be helpful in developing a better understanding of how the working conditions in hard-to-staff schools affect teacher recruitment and attrition. In particular, the information may shed light on what motivates teachers to work in hard-to-staff schools and what incentives are likely to attract more teachers to those schools.

Is the Teacher Preparation System Producing Enough Qualified and Effective Candidates Willing and Able to Take Jobs?

The teacher preparation system faces a set of difficult challenges. On the one hand, the shortage of qualified teachers in the state's classrooms creates a demand for the production of a larger number of teacher candidates as quickly as possible. On the other hand, the implementation of new standards for student learning and a tougher system for holding schools and teachers accountable for student results calls for teacher preparation providers to strengthen the quality of their programs. Concurrently, larger numbers of individuals than ever are choosing to enter classrooms without any formal preparation beyond a bachelor's degree.

The response of the system of teacher preparation has included additional funds from the state to increase the number of teacher candidates and a clear commitment from the CSU leadership to ensure that this happens. Independent colleges and universities have increased their output of teacher candidates, as well. There have also been efforts to

make it easier for candidates to get through teacher preparation programs, such as by offering courses at more convenient times and locations. Moreover, there have been stepped-up efforts to support the increasing number of individuals in the classroom without proper credentials through the Intern and Pre-Intern programs. All of these initiatives are taking place within the context of ongoing plans at the state level to increase teacher preparation program accountability and implement a two-tiered credentialing system that will include a performance assessment for teachers.

As these initiatives progress, it will be important to follow the progress of the teacher preparation system as it seeks to increase production, open alternative routes, and bolster quality. Part of the task will simply be to gauge the flow of individuals through the teacher pipeline: how many enter teacher preparation programs, the proportion that graduate and receive a credential, the proportion of those who take jobs, and, finally, the attrition rates of job takers. Fine-tuning of recruitment and retention policies must be informed by data about those weak spots in the pipeline where we are losing potential teachers.

Even more challenging, however, will be tracking the impacts of policies to improve the preparation of teachers. Are teachers being prepared adequately to help students reach the state's standards? Are they being prepared to work in the hardest-to-staff schools? Of particular importance will be understanding the relative effectiveness of alternative routes, such as the Intern program—do these programs sacrifice quality in any way?

There is also a question about the impact of the existence of these alternative routes on the entire system of teacher preparation. As more individuals begin to teach without proper credentials, traditional preparation programs find themselves serving greater numbers of students who are already the teacher of record in local classrooms. In some parts of the state, prospective teachers have little incentive to enroll in a traditional preparation program because they can earn a salary as a classroom teacher and receive training at the same time. Because these trends have the potential to transform teacher preparation in dramatic ways, it is now important to determine the impact of the availability of alternative routes into the profession on traditional preparation programs.

Does the Teacher Development System Have the Capacity to Support All California Teachers?

In addition to seeking to build stronger pathways into the profession for tomorrow's teachers, policy-makers are increasingly focused on strengthening the current population of teachers. The Beginning Teacher Support and Assessment program (BTSA) is now funded at a level that makes induction support available for all new credentialed teachers. Funds are available for teachers to support other teachers through the Peer Assistance and Review program. The state has also invested \$150 million to support increased professional development opportunities for teachers. These opportunities, notably the California Professional Development Institutes in reading, mathematics, English, and English language development, as well as the California Subject Matter Projects, are designed to improve the knowledge and skills of large numbers of California teachers.

The scaling-up of these support programs to serve large numbers of teachers raises a host of capacity questions. BTSA, the California Professional Development Institutes, the Subject Matter Projects, and the expanding Intern and Pre-Intern programs all draw on the same pool of accomplished teachers to provide support to their colleagues. A major question facing policy-makers and practitioners is whether the overall educational system has the capacity to provide and support adequate numbers of veteran teachers, or others outside of the K-12 system, to assist the current population of 291,000 classroom teachers. In particular, what has been the effect of these programs on hard-to-staff schools, where there are typically fewer veteran teachers able to support their peers?

In general, these initiatives represent expansions of programs that proved successful on a smaller scale—such as BTSA and the Subject Matter Projects. Will these programs maintain their quality, given such rapid expansion? The bottom line remains whether these professional development opportunities provide teachers with the skills, knowledge, and attitudes necessary to help students reach standards.

Is California Creating a More Coherent System of Support for Teacher Development?

With the array of new initiatives, the teacher development landscape gets more crowded. One district or school—or even an individual teacher—may be affected by numerous programs, all designed to support teacher learning. For example, BTSA, the Intern program, and the Pre-Intern program are all charged with serving teachers who are new to their classrooms. Yet the programs have different funding levels, different

programmatic support, and different target participants. In one school, all three programs could be present, supporting different new teachers.

In light of the large investment the state is making in supporting teacher learning, are district, school, and individual teacher professional development plans supported or hindered by state policies? Do state policies detract from or help forge greater coherence in local professional development strategies?

California policy-makers have made significant investments in improving teaching in the state. At the same time, they face the daunting challenges associated with an overall shortage of qualified teachers willing to take jobs, the concentration of underqualified teachers in schools that serve the neediest students, and higher expectations for student achievement. To meet these challenges, refinements to the current set of policies will certainly be necessary. To make those modifications, policy-makers need to have much better information about what is working and what is not than they have had in the past. We discuss this issue in the next section.

Strengthening the System for Assessing the Status of the Teaching Profession

The central message of this report is the critical need for timely and accurate information on which policy-makers can rely to make decisions affecting millions of children. Unfortunately, the state's current system of data collection, management, and reporting does not produce easily accessible and reliable data in several key areas related to teacher supply, demand, and distribution. Specifically, the following data are unavailable to policy-makers seeking a clear understanding of teacher employment patterns:

- **Paths into Teaching.** There are no data on how many new credential recipients previously taught on emergency permits or as interns, versus how many completed a teacher preparation program before beginning to teach. Also unknown is the percentage of emergency permit holders and interns who go on to attain a preliminary credential and the average length of time it takes to gain a credential through these tracks. This information is important to understand the efficacy and efficiency of alternative routes.
- **Entry into the Workforce.** There are no direct data on the number of teachers who take teaching jobs after receiving a credential. These data are important for understanding how teacher preparation programs might be made more efficient.
- **Reentry into the Workforce.** There are no data on the size of the reserve pool of teachers in California. We also do not know how many former teachers return

to the workforce and under what conditions. This information would be useful in targeting recruitment efforts.

- **Attrition, Mobility, and Retirement.** Available data do not allow for reliable analyses of teacher attrition—both out of the profession and from individual schools. Such information would help inform policies seeking to stem attrition from the profession.
- **Variation by Key Characteristics.** In addition, there are no data to tell us how any of the above phenomena vary by region, by type of school or district, or by type of individual teacher.

The lack of data in these areas impedes efforts to project the supply of teachers in the future, making it difficult for policy-makers to accurately assess the magnitude of future shortages and act accordingly. In addition, the current data system does not allow for a robust analysis of the dynamics of the teacher labor market in a shortage situation—that is, the patterns of movement from teacher preparation programs to teaching jobs and the flow of teachers between different teaching assignments, schools, and districts. More robust analyses in the areas listed above would enhance efforts to decide where to direct attention and investments in the areas of teacher preparation, recruitment, and induction, among others.

Designing a Data System on the Teacher Workforce

In some cases, the data listed above simply are not collected. In many cases, however, the data needed are collected but are housed in separate agencies and/or cannot be linked for analysis because they lack a common identifier. In addition, the task of tracking and analyzing the dynamics of teacher supply and demand is not an explicit duty of any one state agency in California.

State officials have indicated an awareness of the weakness in the current data collection system. Thanks to the cooperation of two agencies, the California Commission on Teacher Credentialing (CTC) and the State Teachers' Retirement System (STRS), one effort is under way to better understand the employment patterns of the teacher workforce. This effort explores the possibility of linking data from the two agencies to analyze the flow of teachers in and out of the workforce, including differences in rates of job-taking and attrition among individuals who chose different credential routes into the teaching profession. These analyses, performed as part of *Teaching and California's Future*, will also illuminate the challenges of combining data from multiple agencies.

The linking of the CTC and STRS databases is a start, but more needs to be done. A coordinated data system is needed to collect and analyze the data listed above on an

ongoing basis at the state level. This system could build on the significant amount of data collection and analysis that is already done by various state agencies, but would require the following:

- A common understanding among relevant agencies (namely, CTC and CDE) of the policy issues driving the data collection and analysis requirements.
- Assessment of what agency or agencies—including possibly an outside agency—are best positioned to do the needed data collection and analysis, and assignment of those responsibilities.
- A commitment among relevant agencies to collect and report key data, regardless of the implications for particular policies and programs.
- Use of a common identifier to track individuals across data systems and over time. (The lack of such an identifier is indeed the major barrier to using the data currently collected.)

Though presently lacking in California, a coherent system of collecting and analyzing data on teacher supply, demand, and distribution is the necessary foundation for developing a strategy to counter the drastic shortages that California has experienced in the last several years. Some progress is being made in this area. Currently, SRI International and WestEd, as part of the BTSA evaluation, are developing a prototype for such a statewide data collection system, focused specifically on teacher retention.

Current Research and Evaluation

In addition to statewide data on teacher workforce patterns, there is also a need for other data collection efforts to track the impacts of various teacher policies and programs. At present, a number of evaluation and research efforts are under way that will help address a set of key questions. CTC is sponsoring an evaluation of BTSA; the University of California has an evaluation of the Subject Matter Projects underway and is drawing up plans for an evaluation of the California Professional Development Institutes; and the California State University System is working with its Deans to assess local principals' and district administrators' perceptions of the quality of its graduates. The results of these studies should prove useful to policy-makers.

In addition to these evaluations, the *Teaching and California's Future* research team over the next year will undertake a series of data collection and analysis activities designed explicitly to address the broad questions raised above. This policy inventory and update, as well as the analysis of secondary databases included in this report, represents the first activity of that research. Multiple surveys of teachers, principals, and

district administrators and in-depth case studies of districts and IHEs will complete the data collection activities.

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- 51 California Commission on Teacher Credentialing (CTC). (1998). *Numbers of multiple and single subject teaching credentials issued by the Commission upon the recommendation of California institutions of higher education with Commission-approved programs.* Sacramento, CA: Author.

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Note: Data for years 1991-92 to 1996-97 are from CTC (1998); data for 1997-98 are from CTC (1999); data for year 1998-99 are from CTC (2000). Annual totals include first-time and new-type, multiple- and single-subject credentials. Totals include internship, preliminary, and professional clear credentials. Total for 1998-99 is a "workload number," indicating the number of credentials processed by the CTC. The CTC estimates that workload numbers are within 1% to 5% of the total number actually issued.

⁵² Ibid.

⁵³ California Commission on Teacher Credentialing (CTC). (1998). *Seven year summary of the multiple subject, single subject, and special education specialist internship credentials*.

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Note: Data and analysis for years 1991-92 to 1997-98 are from CTC (1998); data for year 1998-99 are from CTC (2000). Analysis for year 1998-99 was conducted by SRI International. Annual totals include first-time and new-type intern credentials issued for multiple-subject, single-subject, and special education. Totals for all years are "workload numbers," and indicate the number of intern credentials processed by the CTC. The CTC estimates that workload numbers are within 1% to 5% of the total number actually issued.

⁵⁴ California Commission on Teacher Credentialing (CTC), Professional Services Division (2000, September 20). *Pre-internship teaching program: A progress report*. Sacramento, CA: Author.

⁵⁵ California Commission on Teacher Credentialing (CTC). (1998). *Six year report on emergency permits issued during fiscal years 1991 through 6/30/1997*. Sacramento, CA: Author.

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Note: Data for year 1991-92 to 1996-97 are from CTC (1998); data for year 1997-98 are from CTC (1999); data for year 1998-99 are from CTC (2000). Annual totals include first-time, new-type, and renewals for multiple-subject, single-subject, and special education credentials, and both limited-assignment and long-term permits. Totals for years 1997-98 and 1998-99 include special education permits issued under both the new and old regulations. Because of a change in the CTC's reporting policy, totals from 1991-92 to 1996-97 are workload numbers; totals from 1997-98 indicate the number of permits actually issued by the CTC. Because of availability, totals from 1998-99 are workload numbers. The CTC estimates that workload numbers are within 1% to 5% of the total number actually issued. The percentage of the workforce holding emergency credentials is calculated by dividing 32,716 (emergency credentials) by 284,000 (total number of teachers) from CDE (1999).

⁵⁶ California Commission on Teacher Credentialing (CTC). (2000, September 25). Personal communication.

⁵⁷ California Commission on Teacher Credentialing (CTC). (1998). *Six year report on emergency permits issued during fiscal years 1991 through 6/30/1997*. Sacramento, CA: Author.

CTC. (1999). *Totals of credentials granted fiscal year 1997/98*. Sacramento, CA: Author.

CTC. (2000). *Credentials granted during the fiscal year 1998/99*. Sacramento, CA: Author.

Note: Data for years 1991-92 to 1996-97 are from CTC (1998); data for year 1997-98 are from CTC (1999), data for year 1998-99 are from CTC (2000).

⁵⁸ California Department of Education (CDE), Educational Demographics Unit. (2000). *Statewide classroom teacher credential and experience report for the year 1999-00*. Retrieved 2000 from the World Wide Web: <http://www.cde.ca.gov/dataquest>

Note: A quick survey of sample records from the Personnel Assignment Information Form (PAIF) data file on which this report is based reveals that some individuals identify their credential type as both an emergency *and* an intern or waiver, potentially making this a poor source for the total number of underqualified teachers. For this reason, we use this source only to indicate roughly the number of emergency permit holders in 1999-2000 and do not compare them in graphic form with data from the CTC for other years. These data are not available prior to the year 1997-98.

⁵⁹ California Department of Education (CDE), Educational Demographics Unit. (1999). *Statewide classroom teacher credential and experience report for the year 1999-2000*. Sacramento, CA: Author.

Note: 287,154 teachers were included in our analysis, 40,172 of whom were reported to not have full credentials.

⁶⁰ California Commission on Teacher Credentialing (CTC). (2000). *Credentials granted during the fiscal year 1998/99*. Sacramento, CA: Author.

Note: This is a CTC workload report, indicating the number of credentials processed by the CTC. The CTC estimates that workload numbers are within 1% to 5% of the total number actually issued.

⁶¹ California Commission on Teacher Credentialing (CTC). (1999, December 18). *Report on the number of individuals receiving California certification*. Sacramento, CA: Author.

⁶² California Department of Education (CDE). (2000). *Professional assignment information form, 1999-00*. Sacramento, CA: Author.

Note: Teachers self-identify as secondary teachers. Percentages include full-time teachers only.

⁶³ Ibid.

SRI analysis.

Note: This analysis also used school-level data on percentage of students receiving free or reduced-price lunch from 1998. These data were retrieved from the CBEDS data files on the World Wide Web in 1999. Because of changes in data reporting, the exact Web address is not known.

⁶⁴ Note: This analysis and subsequent analyses of the distribution of underqualified teachers use data from school year 1999-2000 and do not include adult, vocational, or other alternative schools. Where possible, we compare these data with similar data from 1998-99 and 1997-98, the first year for which they are available. The 1999-2000 analyses include only those schools for which there were available data from all three years (n=6,987).

⁶⁵ California Department of Education (CDE), Educational Demographics Unit. (2000). *Teacher credentials and experience by school*. Retrieved 2000 from CBEDS data files on the World Wide Web: <http://www.cde.ca.gov/demographics/files/tchcrd98.htm>.

SRI analysis.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

Note: This analysis also used school-level data on urbanicity from 1998. These data were retrieved from the CBEDS data files on the World Wide Web in 1999. Because of changes in data reporting, the exact web address is not known.

⁶⁹ California Department of Education (CDE), Educational Demographics Unit. (2000). *Teacher credentials and experience by school*. Retrieved 2000 from CBEDS data files on the World Wide Web: <http://www.cde.ca.gov/demographics/files/tchcrd98.htm>.

CDE. (2000). *1999-2000 API (growth)*. Retrieved 2000 from API data files on the World Wide Web: <http://www.cde.ca.gov/psaa/api/fallapi/api9900data.htm>.

SRI analysis.

⁷⁰ Note: In this and the subsequent paragraph, percentages given for 1997-98 are not comparable to those given in Figure 3-3 and Figure 3-4 of *The Status of the Teaching Profession* (1999), which included emergency permits but not other types of underqualified teachers.

⁷¹ California Department of Education (CDE), Educational Demographics Unit. (2000). *Teacher credentials and experience by school*. Retrieved 2000 from CBEDS data files on the World Wide Web: <http://www.cde.ca.gov/demographics/files/tchcrd98.htm>.

SRI analysis.

Note: This analysis also used school-level data on percentage of students receiving free or reduced-price lunch from 1998. These data were retrieved from the CBEDS data files on the World Wide Web in 1999. Because of changes in data reporting, the exact Web address is not known.

⁷² California Department of Education (CDE), Educational Demographics Unit. (2000). *Teacher credentials and experience by school*. Retrieved 2000 from CBEDS data files on the World Wide Web: <http://www.cde.ca.gov/demographics/files/tchcrd98.htm>.

SRI analysis.

Note: This analysis also used school-level data on percentage minority students from 1998. These data were retrieved from the CBEDS data files on the World Wide Web in 1999. Because of changes in data reporting, the exact Web address is not known.

⁷³ These findings are reported in Shields, P. M., Esch, C. E., Humphrey, D. C., Young, V. M., Gaston, M. & Hunt, H. (1999). *The status of the teaching profession: Research findings and policy. A report to the Teaching and California's Future Task Force*. Santa Cruz, CA: The Center for the Future of Teaching and Learning.