



REPORT
OCTOBER 2014

Preparing World-Class Teachers

Essential Reforms of Teacher Preparation and Credentialing in California

Executive Summary

Despite the fundamentally important role of teachers in our public school system, how they are prepared is receiving far less attention than other current reforms, such as the Common Core State Standards, the Local Control Funding Formula, and new ways to assess and hold schools accountable for student performance.

Teachers are routinely blamed for almost every underperforming child and every shortcoming of the nation's public school system. The length of time it takes them to get tenure, seniority protections in the layoff process, and the regulations protecting them from dismissal have all come under attack.

In addition, teachers were laid off in large numbers during the Great Recession. Paralleling these developments, enrollments in teacher preparation programs plummeted to less than 20,000 in the 2012-13 school year, according to latest figures—a decline of 74 percent since 2001-02.

It has been more than 15 years since the last major reform of California's system of teacher preparation and credentialing (with the passage of Senate Bill 2042 in 1998). Fortunately, numerous groups have carried out a substantial amount of work that focuses on this crucial element of the state's education system.

Most influential have been the California Commission on Teacher Credentialing, which issues credentials and oversees preparation programs; the Task Force on Educator Excellence, which released its influential "Greatness by Design" report in 2012; and the Teacher Preparation Advisory Panel, which concluded its work in 2013.

This EdSource report is intended to highlight the most promising reforms proposed by these panels and other groups that would contribute to a more effective teaching force. Its

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Eleventh grade computer programming class,
Foshay Academy in Los Angeles

“New teachers are shocked at how hard this job is.”

—RICK AYERS, PROFESSOR,
UNIVERSITY OF SAN FRANCISCO
TEACHER EDUCATION DEPARTMENT

purpose is to draw attention to reforms that are arguably as important as those dealing with school financing, curriculum, and testing and accountability.

This report is not an attempt to evaluate the quality of the several dozens of California teacher preparation programs. Rather, we aim to spotlight model programs and broader reform strategies that have the potential to raise the bar for teacher training and simultaneously elevate the prestige of a profession that is crucial to the future of the Golden State.

Consideration of these reforms come at a critical time for the teaching profession and the future of public education in California and the nation. Teachers are faced with having to teach within the new frameworks emanating from both the Common Core State Standards in math and English language arts as well as from the Next Generation Science Standards.

EdSource has reviewed key reports along with thousands of pages of studies and background documents on redesigning the state’s system of teacher preparation and credentialing. We have interviewed key experts as well as new teachers who have recently gone through the credentialing process.

On the basis of that work, EdSource has identified seven key challenges—and the most promising strategies to address them at a local and statewide level.

CHALLENGE #1: *California largely separates academic study—“what” to teach—from professional training—“how” to teach.*

Addressing the Challenge:

- Expand undergraduate “blended” programs that combine academic coursework with teacher training.
- Develop more opportunities for undergraduates to get exposure to the teaching profession.

CHALLENGE #2: *With virtually no state oversight, student teaching, a critically important part of the teacher preparation process, varies widely in quality. Finding appropriate placements and skilled master teachers to supervise teachers-in-training is becoming increasingly difficult.*

Addressing the Challenge:

- Set statewide standards regulating the duration, content and quality of student teaching.
- Encourage close school-university partnerships that connect theory and practice.
- Provide professional development and stipends/release time for master teachers at a district level.



Kindergarten art class,
Redwood Heights Elementary School in Oakland

CHALLENGE #3: *California’s teaching credentials don’t focus on early childhood or middle school, leaving many teachers less prepared for these critical periods in a child’s development.*

Addressing the Challenge:

- Require middle school teachers to hold an emphasis—earned during preparation or on the job—that ensures age-specific expertise while allowing for staffing flexibility.
- Create a preK-3 emphasis and credential, ensuring early childhood expertise.

CHALLENGE #4: *With no state-level professional development requirements for credential renewal, training opportunities vary widely by district. There are no external incentives for districts to provide them.*

Addressing the Challenge:

- Establish meaningful renewal requirements that promote teacher growth and leadership, with professional learning completed at the local level counting toward those requirements.
- Provide incentives for teachers to engage in professional learning that leads to advanced teaching credentials and greater remuneration.

CHALLENGE #5: *Due in part to a longstanding shortage, the training requirements for special education teachers have been relaxed. Many today are not trained in the basics of classroom teaching before being charged with serving the most challenging students. The preparation of special education teachers is also unnecessarily separated from that of general education teachers—a divide that can carry over into the classroom.*

Addressing the Challenge:

- Integrate special education teacher preparation with general teacher preparation to ensure that all have adequate grounding in both the fundamentals of regular classroom instruction and strategies to meet the special needs of all students.
- Retrain credentialed general education teachers to teach special education—and provide incentives to keep them in this high-needs field.
- Ensure new special education teachers have access to mentoring and support programs focused on this specialized field.



Second grade class, Edison Elementary School in Glendale

CHALLENGE #6: *New teachers are having increasing difficulty getting access to high-quality support programs with experienced mentors, also known as “induction” programs. Such support is crucial to ensure that they are effective in the classroom and that they stay in the profession.*

Addressing the Challenge:

- Ensure that all teachers, including interns and those in temporary positions (such as long-term substitutes), are eligible for and participate in quality support programs.
- Restore targeted state support to ensure that the Beginning Teachers Support and Assessment (BTSA) program or a comparable program is available to all new teachers and that cost is not a barrier to participation.

CHALLENGE #7: *During the past decade, teaching has become an increasingly unattractive career option. Enrollments in teacher preparation programs have plummeted.*

Addressing the Challenge:

- Design reforms of teacher preparation and credentialing to attract new teachers—especially those reflecting the diversity of the student body—rather than impose additional hurdles that discourage candidates from entering the profession.
- Implement strategies aimed at retention and growth among new teachers, such as a reduced workload during the first and second years.
- Leaders in business, education, and civic life should implement an aggressive communications campaign aimed at attracting new teachers to the profession.
- Devote more government, business, and philanthropic support to underwrite the cost of becoming a teacher for talented individuals willing to commit to teaching in high-need schools and subject areas.

What is crucial is that reforms to teacher preparation and credentialing not be carried out in isolation. Instead, they need to be fully integrated and synchronized with the other major reforms now being rolled out in California, including the Local Control Funding Formula, the Common Core State Standards, and dramatically revised new assessment and accountability systems.

Preparing World-Class Teachers

Essential Reforms of Teacher Preparation and Credentialing in California

Full Report

“I’ve wanted to be a teacher since I was in the 7th grade.

The low pay did not deter me, but I don’t think I was prepared to be laid off. I was laid off each year of my first three years. I was not prepared to go through that emotionally. But I stayed in teaching because I can’t see myself doing anything else.”

—VICTORIA VASQUEZ,
12TH GRADE GOVERNMENT
AND ECONOMICS TEACHER,
ALLIANCE DR. OLGA MOHAN HIGH
SCHOOL IN LOS ANGELES

Third grade library class,
Charles Drew Preparatory Academy in San Francisco



OVERVIEW

California faces a crisis in attracting, preparing, and retaining a high-quality teaching force that is both trained in the Common Core and Next Generation Science Standards as well as able to help the state reach its new goal of all students graduating with the skills to succeed in college and the work force.

In fact, enrollment in teacher credentialing programs has plummeted from nearly 52,000 in 2006-07¹ to less than 20,000 in 2012-13.²

This is especially alarming because although retirements slowed somewhat during the Great Recession, large numbers will leave the profession during the coming two decades.

At the same time, the inevitable surge of retirements will offer new opportunities for fresh approaches to teacher preparation and credentialing.

California poses a particular challenge for reformers. Its teacher preparation system³ is one of vast scope and diversity, involving 22 California State University campuses, eight University of California campuses, about 60 private colleges and universities, and dozens of school districts and county offices of education.

Moreover, California is the only state in the country where the typical pathway to teaching⁴ delays professional preparation until after a candidate has earned a four-year baccalaureate degree in a subject other than education.

The state also has an extraordinarily diverse student body, both in terms of income levels and cultural, ethnic, and linguistic backgrounds.

The focus of most national reforms during the past decade has been to hold teachers almost single-handedly responsible for the lagging performance of students as well as for the achievement gap that has persisted despite decades of reforms. Teacher tenure and other employment protections teachers have enjoyed have come under attack in several states. That has resulted, most dramatically, in the *Vergara* ruling in June 2014 in the Los Angeles Superior Court declaring five laws governing permanent employment, teacher dismissal, and “last in/first out” layoff policies unconstitutional under California’s constitution.⁵

Yet reforming teacher preparation and credentialing has often received short shrift on the nation’s education reform agenda.

In California, however, two expert panels have produced in-depth and influential analyses of how to reform the state’s unique teacher preparation system.

“Teaching is much more challenging than I anticipated. We are apprehensive about how we are going to make this switch to the Common Core over the next five years. But I don’t regret my decision to become a teacher. Every night when I lay my head down to sleep, I feel satisfied knowing that if I were to pass away, I would be happy with what I did today. That has not changed.”

—ROSALIE YU, PROJECT SPECIALIST,
MCKINLEY ELEMENTARY SCHOOL
IN SAN JOSE

The Task Force on Educator Excellence, convened by State Superintendent of Public Instruction Tom Torlakson, was led by Long Beach Unified School Superintendent Chris Steinhauser and Stanford University professor Linda Darling-Hammond. Darling-Hammond is also chair of the Commission on Teacher Credentialing. The panel produced a detailed report, “Greatness by Design,” which has been seen as a road map for teacher preparation reform. One key reform detailed in the report is smoothing out the currently fragmented system into a “continuum” of teacher learning that allows preparation to start early and continue throughout a teacher’s career.

The 29-member Teacher Preparation Advisory Panel was convened by the Commission on Teacher Credentialing and co-chaired by Reach Institute founder Page Tompkins and professor Pia Wong, head of the Department of Teaching Credentials at Sacramento State University. The panel looked at many of the same challenges as the Task Force on Educator Excellence, and after 15 months of deliberations submitted a list of 40 recommendations to the commission in June 2013. The credentialing commission will be discussing—and in some cases implementing—the TAP Panel’s recommendations during the next two years.

Already one key reform recommended by both panels has been approved by the state Legislature. As a result of Senate Bill 5, teacher preparation programs will no longer have to squeeze all postgraduate teacher preparation into a single year of study, but will have two years instead. Depending on how individual programs respond to this change, it could represent one of the most important reforms of California’s credentialing system in decades.

But much work remains to be done.

The purpose of this report is to identify the most salient reform proposals and to highlight those that are the most promising and essential. To do so, EdSource has reviewed key reports along with thousands of pages of studies and background documents related to how to best redesign teacher training. We have interviewed teacher education experts as well as teachers who have recently gone through the credentialing process.

We identify seven major challenges that California must address to ensure a world-class teaching force, in addition to the ongoing challenge of preparing math and science teachers, an effort that cuts across all other challenge areas. We place these challenges in a larger context and suggest strategies to address them.

We present these challenges with the realization that they will not necessarily apply to every teacher preparation program. But the matter is of such deep urgency that we believe the overview provided in this report will be valuable in highlighting some of the most promising approaches currently being considered in policymaking circles.



Kindergarten art class,
Redwood Heights Elementary School in Oakland

CHALLENGE #1

Integrate academic coursework—the “what” of teaching, with teacher training—the “how” of teaching.

Unlike most states, California does not widely offer an undergraduate degree leading to a teaching credential. The undergraduate education degree—a combination of child development, academics, and pedagogy—was abolished by the 1961 Fisher Act, passed by lawmakers who were concerned that it was not providing a strong academic base.⁶

In response, undergraduate schools of education effectively reinvented themselves as postgraduate programs. The typical pathway to teaching became four years of undergraduate studies in a subject other than education, followed by a year of postgraduate teacher preparation, typically including a semester of student teaching. That’s largely how it still works today.

As a result, the faculty overseeing undergraduate studies are typically different from those in charge of postgraduate teacher preparation. Even within the same university, undergraduate academic departments often have little connection to postgraduate education departments. That contributes to a disconnect between academics and the professional training needed to be successful in the classroom.

No other state requires teachers to complete both a bachelor’s degree and a postgraduate program to earn an initial credential.⁷ In most states, teachers can earn a credential as part of an undergraduate program.

Even states that have moved away from the education major still widely incorporate a teaching credential into an undergraduate degree. In Texas, for example—another state that has done away with the education major—candidates earn a degree in interdisciplinary studies as well as a credential in their area of teaching.⁸ The credential component is added on essentially like an academic minor. In New Jersey, candidates double major in education and another area, ensuring that teacher training is paired with a strong academic component.

California’s separation of academic content and teacher training is a particular concern regarding STEM (science, technology, engineering, and math) curriculum. The California STEM Learning Network points out that one consequence of the California system is that by the time teacher candidates get to student teaching, it has likely been several years since they studied math and science in their undergraduate years. Ideally, the organization says, content and pedagogy should be learned at the same time—not several years apart.⁹

Clearly one major advantage of a strong postgraduate pathway is that it attracts candidates who have earned bachelor’s degrees but are either still



Fifth grade class,
Redwood Heights Elementary School in Oakland

“The problem is that for people who want to teach, the current system separates the ‘what to teach’ and the ‘how to teach’ into two entirely separate components instead of allowing them to be learned in an integrated fashion.”

— BEVERLY YOUNG, CSU ASSISTANT VICE CHANCELLOR OF TEACHER EDUCATION AND COMMISSION ON TEACHER CREDENTIALING MEMBER

deciding on a career path or looking to change careers. Many candidates also are not ready to commit to teaching as undergraduates and prefer the postgraduate pathway.

But there are advantages to creating programs that blend academics with teacher training for students who know early that they want to go into teaching. These so-called “blended” programs exist on some campuses but currently prepare only a small minority of the state’s teachers.

Leading educators say there are considerable benefits to giving those students who know they want to go into teaching—and even those who are not sure but think of teaching as a possible career—the opportunity to take advantage of the undergraduate years to prepare for life in the classroom.

“We have not done a good enough job of using the undergraduate years properly,” said Cynthia Grutzik, president of the California Council on Teacher Education and associate dean of the College of Education at Cal State Long Beach. “There is a lot about being a teacher that takes a while to grow, to become someone who is culturally competent, articulate, and literate.”

Addressing the Challenge

Expand “blended” programs that combine an academic major with teacher preparation.

A number of CSU and UC campuses, as well as some private universities, already have blended programs, which combine teacher preparation and academic coursework into a four- or five-year intensive undergraduate degree.

In an undergraduate blended program, students earn both a bachelor’s degree in a subject other than education—often liberal studies or child development—as well as a preliminary teaching credential. Experience in a classroom working with children begins early and continues throughout the program.

Liberal studies is a specially designed major often used by students interested in pursuing elementary or middle school teaching, including special education and bilingual education.¹⁰ The major covers a range of core academic disciplines and prepares students to take the California Subject Examination for Teachers (CSET), which they must pass to demonstrate content knowledge and earn a credential.

Blended programs got a boost about 15 years ago when Senate Bill 2042 recognized them as a major pathway to teaching—an alternative to the traditional undergraduate degree followed by a postgraduate preparation program. Under this legislation, a number of universities received state funding to create blended degree programs.¹¹

In practice, though, blended programs today prepare only a small minority of the state’s new teachers. CSU enrollment data for 2012-13 shows just eight of the system’s 22 schools of education with active blended programs. Five of those



Kindergarten class, Robinson Elementary School in Fresno

“The one thing I fundamentally disagree with is the idea that anyone can step into the classroom and teach kids.”

— KE WU, CURRENT NEW YORK UNIVERSITY LAW STUDENT AND FORMER TEACHER, JOHN C. FREMONT HIGH SCHOOL IN LOS ANGELES

had fewer than 20 candidates. Systemwide, only 420 of CSU’s 8,000 teacher candidates were enrolled in such programs, with most concentrated at the Long Beach and Northridge campuses.¹²

One of the main barriers to expanding blended programs in California is that merging two separate curricula into one degree requires a great deal of coordination between teaching preparation departments and academic departments.¹³

This is particularly difficult in STEM subject areas, which unlike liberal arts courses of study typically do not include much coursework that can be counted toward both an academic major and a teaching credential. That makes it more difficult to create a program that can be completed in four or five years.

Publicizing successful blended models that have overcome these barriers could help spur innovation in this area.

UC Irvine’s [CalTeach program](#) is one of those models. The university offers one of the few blended single-subject credential programs in the state. In four years, candidates can earn a bachelor’s degree in math or science and a preliminary teaching credential. Sue Marshall, UC Irvine director of undergraduate education programs, recently told the Commission on Teacher Credentialing that some student teaching hours had to be sacrificed to allow students to finish their STEM major and graduate in four years:

“It has been no small matter to negotiate with five different math and science departments to ensure that their faculty feels the students are gaining the high-quality STEM education they need in their major and we feel that they’re getting the quality experience they need for their teaching credential.”¹⁴

For many teachers-in-training, it may be preferable to allow five years to complete a blended program. A five-year timeline would ensure neither area is watered down for the sake of faster completion. Candidates intent on a faster path to the classroom can always opt for a more intensive course load, along with summer study. But the true purpose of a blended program is to integrate content knowledge and teaching methods while also allowing early exposure to the profession. Such programs should not sacrifice academic coursework or professional training simply to get a candidate into the classroom more quickly.

Despite their advantages, blended programs pose numerous challenges. A high number of students transfer from community colleges to CSU, which means they cannot participate in a blended program from the beginning of their undergraduate education. More coordination with community colleges could help in this regard. Another issue is that these programs tend to attract students who are able to participate in a highly structured and intensive program, which effectively screens out students who need to work. So additional efforts would need to be made to ensure that students from diverse backgrounds are able to participate.

How California creates teachers

Typical pathway: Most teachers follow a four-year undergraduate degree with a postgraduate teacher preparation program that leads to a preliminary credential. Some preparation programs also lead to a master's degree in addition to a credential.

“Blended” pathway: A small minority of teachers go through intensive programs that integrate academic content and teacher preparation into the undergraduate years. Programs take four to five years and provide candidates with early exposure to the teaching profession. A handful of CSU campuses offer blended programs for multiple-subject credentials, but there are few options for single-subject credentials and specialized teaching credentials.

Intern pathway: An alternative route to certification, an intern holds a paid teaching position for up to three years while earning a credential. Many receive only minimal training before entering the classroom and often no student teaching experience. Universities, school districts, and county offices of education offer intern programs. Intern credentials are supposed to be available only in areas of teaching where there is a high need, such as special education. General education teachers retraining in special education also sometimes use this pathway.

Expand opportunities for undergraduates to get exposure to the teaching profession.

For undergraduates interested in exploring teaching without the commitment of a blended program, there are some models that could be expanded to reach more students:

Founded in 2006, the University of California's CalTeach program offers hands-on experience in K-12 classrooms to undergraduates who major in math, science, and engineering. At UC Irvine and UC Berkeley, students who complete all CalTeach coursework and a semester of student teaching can earn a credential with their bachelor's degree. But students can also simply explore teaching through CalTeach, then decide after graduation whether to pursue a credential. By 2011, some 3,000 students had taken classes through CalTeach, with 550 going on to earn math and science teaching credentials.¹⁵

Funded by a combination of public and private money, the California Teacher Pathway recruits low-income community college students into math and science teaching. Sandy Sanders, co-director of the program, told EdSource that one goal is to get candidates into the pipeline for CSU's teacher preparation programs, which have experienced a dramatic drop in enrollment in recent years. There were about 700 students in the program, which began six years ago, during 2013-14.¹⁶

Yuvia Lopez graduated from Cal State Dominguez Hills in 2012 with a degree in math education and spent the 2013-14 school year working toward her teaching credential through the university's intern program. In an interview, Lopez credited the California Teacher Pathway program with guiding her through the teacher preparation process, from community college to CSU. “I absolutely would not have become a teacher without it,” she said.

The California Teaching Fellows program at Cal State Fresno also provides early exposure to teaching for undergraduates. Founded in 1999 with private foundation support, the program places undergraduates, including community college students, as paid interns in after-school programs throughout Fresno, Madera, Kings, and Tulare counties. Fellows participate in monthly training sessions and receive one-on-one mentoring. Candidates typically spend about three years in the program and average 1,500 hours in a school setting before even entering a teacher preparation program. During the 2013-14 school year, there were more than 1,200 fellows enrolled.¹⁷



Eleventh grade green energy class,
Arroyo Valley High School in San Bernardino

CHALLENGE #2

Improve oversight of student teaching to ensure quality and spur innovation.

Student teaching—experience in the classroom under the guidance of a qualified mentor—lies at the heart of the teacher preparation enterprise.

Yet as Linda Darling-Hammond, professor of education at Stanford University and chair of the Commission on Teacher Credentialing, noted in an interview with EdSource, without state oversight, teacher preparation programs vary widely in the quality and length of student teaching that they offer.

“In California, there are places that offer no minimum,” she said. “There are places that offer less than 10 weeks, and there are places that offer as much as a full year. And there are places that are still waiting until the very end of the program to ask candidates to go out into the field.”

The Teacher Preparation Advisory Panel also found a “very wide variation” in a review of student teaching. State data show that while about half of all programs require somewhere between 400 and 599 hours, others require as little as 135 hours or as much as 1,600.

Student teaching ideally takes place under the guidance of an experienced mentor known as a “master” or “cooperating” teacher. It should allow candidates to put into practice what they have learned in preparation courses. In some districts, close school-university partnerships that blend professional training and hands-on practice to prepare new teachers, enhance professional development, and improve school performance are helping to make this connection between theory and practice.

When successful, the student teaching experience can be extraordinarily powerful.

Jonathan Jonas, a Sacramento State graduate who recently completed his first year of teaching at Galt High School, described it as a “wonderful experience.” Jonas said that an entire school year with a strong cooperating teacher at the Heron School, a K-8 elementary school in the Natomas Unified School District, “gave me all the support I needed, gave me all the tools and tricks of the trade I needed to start out. Being a first-year teacher, I feel I was really prepared with what I needed going in.”

Yet finding those high-quality placements can be challenging. A 2010 report by the National Council on Teacher Quality found that credential programs often feel a “sense of powerlessness” in trying to get appropriate placements for student teachers.

“There are a lot of places where the district dictates entirely what schools and classrooms can or can’t be used (to place student teachers), when and how and where,” said CSU Assistant Vice Chancellor Beverly Young.

“While some candidates receive as much as 40 weeks of carefully supervised and calibrated clinical experience under the wing of an expert, others may receive only a few days or weeks before they begin in the classroom.”

—TASK FORCE ON EDUCATOR EXCELLENCE, 2012

Sacramento State professor Pia Wong said the struggle to find enough student teaching spots for 500 candidates every year leaves her program’s placement coordinators feeling “like beggars.”

“They start begging in April, and they finish begging in August,” said Wong, who also co-chaired the Teacher Preparation Advisory Panel.

Finding willing schools and master teachers is just the first step in finding the right placement, points out Elaine Chin, dean of the Connie L. Lurie College of Education at San Jose State. “We have to match the placement with the student’s strengths and weaknesses,” she said. “It’s like being a matchmaker. It takes some really skilled faculty and placement coordinators. It is not something you can do at the drop of a hat.”

Schools are reluctant to accept candidates for several reasons. Schools and teachers are generally not paid for the work of overseeing student teachers or are paid only a tiny sum. In addition to little financial incentive, years of budget cuts and layoffs have made it difficult for principals to ensure quality placements for student teachers ahead of time.

“At this point, there’s nothing systemic that would compel an experienced teacher to want to mentor a pre-service teacher,” Wong said.

Additionally, she said, because of accountability pressures, struggling schools are increasingly reluctant to turn classes over to student teachers for fear it might depress test scores. Student teachers also face financial challenges. They are not getting paid for the time they are putting in, and at times have to work several jobs to get through the year.

At the same time, there is wide recognition that the student teaching experience is an essential—perhaps *the* essential—part of the teacher preparation experience. “The most important dimension that will lead to improved quality is if we give our future teachers experience in a school working with a master teacher,” said San Jose State’s Chin.

Addressing the Challenge

Set statewide standards regulating the student teaching experience.

Both the Teacher Preparation Advisory Panel and the Task Force on Educator Excellence have urged better oversight of field experiences. That includes both the supervisor representing the teacher preparation program and the K-12 master teacher on the school site.

Nationally, the American Federation of Teachers¹⁸ and the Council for the Accreditation of Educator Preparation are among those who argue teachers need at least one full year of student teaching experience before becoming the teacher of record. In most cases, teachers get much less.



First grade class, Ayer Elementary School in Fresno

Maggie Payne, associate dean at Cal State Chico's College of Communication and Education, recently told the Commission on Teacher Credentialing that providing a full year of student teaching in one classroom makes a significant difference.

Cal State Chico offers a traditional one-year, postgraduate teacher preparation program leading to a credential. But the university also offers an 18-month rural teacher residency. One of the key differences between the two approaches is the intensive classroom experience in the residency, which includes a full year of student teaching in one classroom under the guidance of a skilled master teacher. It is based on the medical residency model in which doctors-in-training work intensively with a skilled practitioner to hone their craft.

Similarly, Cal State Long Beach uses a full-year residency model in its UTEACH program. The residency is open to both undergraduate and postgraduate candidates pursuing a multiple-subject credential. Teaching methods courses are taught at the school site, fully immersing candidates in the school environment.

In addition to regulating the amount of time candidates spend student teaching, state requirements could be used to ensure student teachers get an opportunity to practice teaching English learners, working with special education colleagues, and using technology effectively. While placement programs typically expect that teacher candidates will get this kind of experience, whether they do is not closely monitored.

Bethany Schwappach, a fifth-grade teacher at Naranca Elementary School in the Cajon Valley Union School District near San Diego, credited her program at San Diego State with providing plenty of classroom experience. But, she said, she still wasn't prepared to work in a school where 80 percent of students are English learners.

"With English learners, we only had a little bit of preparation," said Schwappach, who just completed her fifth year of teaching. "That's something I felt weak in at first."

Encourage close school-university partnerships that connect theory and practice.

So-called "professional development schools"¹⁹ that put hands-on experience in K-12 schools at the center of teacher preparation are key to integrating coursework and classroom teaching. These school sites are modeled after teaching hospitals that train medical residents under the guidance of skilled doctors.

No one knows exactly how many professional development schools exist across the nation, but the model appears to be frequently used in California. Washington Elementary School in San Jose is partnered with San Jose State, for example. Sometimes like-minded schools in the same geographic area have come together with local schools of education to form "professional development networks." Stanford University, for example, works with some 10 secondary schools, including Hillsdale High School in San Mateo.²⁰



Third grade class,
Black Butte Elementary School in Shingletown (Shasta County)

The Cal State Long Beach UTEACH program has been placing candidates in Long Beach elementary schools for five years. Candidates spend the school year splitting their time between the K-12 classroom and university classes taught on site by Cal State Long Beach faculty.

Another model is the Stanford Teacher Education Program, a 12-month, residency-style master's program in which students get a full year of intensive "clinical experience" under the supervision of an experienced master teacher. In a residency, candidates also work with others in their cohort—a small group of colleagues that support each other as they go through the program together.

Funded by federal and private grants, the San Francisco Teacher Residency²¹ trains teachers in math, science, and bilingual English/Spanish by putting them in a classroom for a full school year under the guidance of a "demonstration teacher." Candidates simultaneously take coursework toward a master's degree at the University of San Francisco or Stanford. In exchange for discounted tuition or loan forgiveness, candidates must commit to one of San Francisco Unified's hard-to-staff schools for at least three years.

The program was started so that the district itself could be more directly involved in the teacher preparation process and in effect grow its own teachers. In a 2011 application for federal funding, the program explained that existing teacher training programs were failing to meet district needs:

*"As the debate rages about the best way to prepare and retain teachers for high-needs districts like San Francisco Unified, traditional university-based teacher education programs and alternative credentialing pathways cannot meet local hiring needs, and quality varies widely within each program type."*²²

Provide training and stipends/release time for master teachers.

Central to the student teaching experience is the competence of the master teacher. Expert teachers must be encouraged to participate. And funds must be provided to finance the training they need to be outstanding, along with modest stipends to supplement their regular salaries.

Granting release time would also allow master teachers more time to mentor candidates without the burden of a full class load. Max Anders, who completed his first year of teaching high school English in San Francisco this year, said having a cooperating teacher who could spend substantial time with him made a huge difference in his success. The teacher was an "instructional reform facilitator"—a teacher leader charged with focusing on school improvement—and had been relieved of some regular classroom duties as a result. That release time allowed for daily post-class mentoring sessions in her office. Anders said

the intensive experience of following daily teaching with one-on-one mentoring was invaluable. “I spent more time with this person than I did with my fiancée,” he said. “It was really, really valuable stuff.”

Nonmonetary incentives can also be important to motivate master teachers, such as involving them in designing student teaching experiences or allowing them to interview candidates before accepting them into their classrooms.

All grades lining up to begin the day,
Redwood Heights Elementary School in Oakland





Summer pre-kindergarten class,
Martin Luther King Elementary School in Oakland

“Attention to the preparation of early childhood educators is important both because of the growing appreciation for the importance of early learning—and the attendant expansion of access for more young children—and because research has documented the need for and benefit of well-prepared teachers with specialized knowledge to provide this instruction.”

—GREATNESS BY DESIGN REPORT,
TASK FORCE ON EDUCATOR
EXCELLENCE, 2012

CHALLENGE #3

Ensure that teachers are fully prepared for the age group they teach and have a deeper understanding of effective strategies to reach students at different developmental levels, especially at the preK-3 and middle school levels.

One consequence of California’s credentialing system is that teachers are not specifically prepared to teach two crucial periods of a child’s development, early childhood (preK-3) and the middle grades (5-8) when students are at a particularly important stage of their development.²³

Some states have addressed this issue by structuring credentials to cover narrower grade spans, which allows teachers to develop expertise in a more targeted age group—and for a more age-specific focus in their teacher preparation programs. Most states, for example, require specific preparation for preK-3. Several states do so for the middle grades.²⁴ For example:

- Ohio’s teaching credentials cover preschool through the 3rd grade, 4th through 9th grade, and 9th through 12th grade.
- Oregon offers credentials for preschool through 4th grade, 3rd through 8th grade, 5th through 9th grade, and 9th through 12th grade.
- In New Jersey, teachers must add an “endorsement” to a K-6 credential to teach preschool or middle school.

California by contrast offers two credentials:

- The multiple-subject credential, which typically focuses on K-6 but can also be used in middle school.
- The single-subject credential, which typically focuses on high school but can also be used in middle school.

Early childhood advocates emphasize the importance of additional training in the early years, especially in light of the recent addition of transitional kindergarten for 4-year-olds born between September and December. “It’s a time of rapid development with distinct phases, so we just think it is important to have well-prepared teachers with specialized knowledge to provide early instruction,” said Deborah Kong, executive director of Early Edge, an advocacy group promoting universal preschool and expanded kindergarten. Also, she said, “research shows that teachers who understand child development, cognitive and neuroscience, and how they can be applied in the classroom can improve children’s outcomes.”

That view was echoed by a 2011 report by the New America Foundation on strategies for preparing teachers in the early grades:

“Kindergartners and 1st graders—five- and six-year-olds—are at a very different stage of cognitive and social development compared with children in the 4th or 5th grades. They require instruction that is less abstract and more concrete and includes hands-on activities. They are

“Trends in teacher credentialing and licensing demonstrate a clear move towards acknowledging children’s unique learning and development requirements during the early years, and establishing qualitatively different requirements from middle childhood and upper grades.”

—TASK GROUP ON EARLY CHILDHOOD EDUCATION CREDENTIALING, 2013

not wired to sit and listen to lecture for long periods. Their teachers need to be equipped with knowledge and skills that show a deep understanding of early childhood, including a focus on social-emotional growth and family engagement, and instruction in the most effective ways to teach early science, early literacy, and the building blocks of mathematics.”²⁵

The middle school years are similarly crucial. As Johns Hopkins University professor Robert Balfanz, author of *Putting Middle Grades Students on the Graduation Path*, noted: “It is during the middle grades that students either launch toward achievement and attainment, or slide off track and get placed on a path of frustration and ultimately early exit from the only secure path to adult success—finishing high school.”²⁶

Middle school teachers would benefit from a deep understanding of adolescent development and age-specific classroom management methods, and may not be well served by either the single-subject or the multiple-subject credential. Both credentials can be used in middle school, but in practice content is geared toward either elementary or high school.

In interviews with EdSource, several middle school teachers described struggling during their first year in middle school because of their lack of training in this challenging developmental stage. Several had never planned on teaching middle school and had been in teacher preparation programs geared toward high school. Others had always wanted to teach middle school, but had still struggled to adequately prepare themselves during their preparation programs because of an absence of a focus on the middle school years.

Addressing the Challenge

Create a middle school course of study or “area of emphasis.”

The improved fiscal outlook for schools, combined with increased flexibility for preparation programs to extend the time period from one to two years, makes this an appropriate time to revisit strategies to address the middle school preparation gap.

One approach would be to implement a course of study or “emphasis” that would be integrated into the teacher preparation process, or could be earned within a prescribed period of time after a teacher has received his or her credential and has begun teaching in a middle school classroom.

For example, candidates pursuing a multiple- or single-subject credential could choose to take additional units focused on adolescent development and classroom management. Field experiences or substitute teaching in middle schools could also be considered as part of a middle school emphasis.

To avoid being viewed as unnecessary “busy work” by teachers, an area of emphasis focused on middle schools must be structured so it could provide valuable support and training that will make teachers more effective in the classroom.

“It is during the middle grades that students either launch toward achievement and attainment, or slide off track and placed on a path of frustration, failure, and, ultimately, early exit from the only secure path to adult success.”

—ROBERT BALFANZ, 2009

Models for such a program already exist. Some CSU programs offer a middle school emphasis as part of a multiple-subject credential. CSU San Marcos’ program, for example, is geared toward 5th through 9th grade teachers. Courses are taught at a school site, and participants earn a “Certificate of Advanced Study in Middle Level Education” in addition to their multiple-subject credential.²⁷

San Jose State offers a similar “Middle Level Emphasis” program targeted at 5th through 8th grade. Teacher candidates can complete the program in one or two years, which includes a yearlong “residency” in one of a half dozen local districts.²⁸

Expansion of programs like these would send a strong message about the importance of the middle grades, potentially helping to raise the prestige of teaching those grades and alleviating the challenge of recruiting middle school teachers.

Create an early childhood area of “emphasis” during teacher preparation, as well as the option of a separate credential for the early grades (preK-3).

The introduction of transitional kindergarten in the 2012-13 school year—effectively an extra year of public school for 4-year-olds eligible for traditional kindergarten—has underscored the need for more teacher preparation for the preschool years. As all elementary school teachers know, there is a wide variation in the developmental levels of children during these early years. An early childhood emphasis in teacher training programs similar to the middle school emphasis described above would better prepare teacher candidates for these early years.

For many years, early childhood advocates have been calling for bringing back the preK-3 credential, which was phased out in the 1970s. Most recently, the Task Group appointed by the California Commission on Teacher Credentialing recommended in 2013 a stand-alone Early Childhood Education credential.²⁹ The 2012 Task Force on Educator Excellence in its *Greatness by Design* report also recommended a preK-3 credential, in addition to what it called an optional “recognition of study” to clarify desired knowledge and skills in these early education fields. The task force noted that community colleges would be key to developing what it called “well articulated pipelines” for a new training system, as they are the main institutions preparing early childhood educators at the pre-kindergarten level.

As with middle schools, models exist for what kind of content should be part of an emphasis or credential in early childhood education. For example, two CSU campuses—Sonoma State and Channel Islands—currently offer baccalaureate degrees in early childhood education that would be well aligned with a separate preK-3 credential should one be offered in California.³⁰ Whether it is an area of emphasis or a separate credential, further discussion of the appropriate strategies for preparing teachers to be most effective in the early years is urgently needed.

Teacher Credentialing 101

California's credentialing system has two tiers. First, teachers must earn a "preliminary" credential. Within five years, they must upgrade the preliminary credential to a "clear" credential by completing an induction program. Typically, that program is BTSA, or Beginning Teacher Support and Assessment.

Elementary (multiple-subject credential): Elementary teachers must have a multiple-subject credential that covers all core subjects they will be required to teach. This credential can also be used in middle school, though preparation is typically not focused on that age group.

High school (single-subject) credential: In high school, teachers must have a single-subject credential in a specific subject area, such as math or English. This credential can also be used in middle school, though preparation is typically not focused on that age group.

Special education credential: Special education teachers can work with students of all ages. The most common specialist credentials are "mild/moderate" disabilities and "moderate/severe" disabilities. Unlike in many states, special education teachers in California are not required to also hold a regular teaching credential.

CHALLENGE #4

Link renewal of teaching credentials to professional learning.

Until 2006, California teachers had to have 150 hours of professional development every five years in order to renew their credentials. At the time, the Legislature hoped that eliminating the requirement would give local districts more freedom to develop their own professional development opportunities. However, according to the Teacher Preparation Advisory Panel, eliminating the state requirement in many cases "resulted in a sharp decrease in professional growth for California teachers."³¹

Although they may be required to engage in professional development by their districts, California teachers are not required to do any extra training to renew their credential. As a result, the level of professional development that teachers experience after earning a credential varies enormously from district to district—and is almost certainly less than what they need. As the Greatness by Design report notes:

*"California teachers, like those nationally, have little time for professional collaboration or learning—usually only about three to five hours per week of individual planning time, much less than that available to teachers in other countries for joint planning allowing them to share practices and learn from each other."*³²

In its 2013 Blueprint for Respect, the U.S. Department of Education emphasized the importance of professional development and collaboration, saying such opportunities are "especially needed for teachers of students with disabilities and teachers of students who are English learners." In New York, the United Federation of Teachers recently approved a contract that includes paying teachers bonuses of up to \$20,000 a year for mentoring colleagues.

In California, funding for professional development has been sharply reduced as a result of both budget cuts and the elimination of state categorical funds designated for that purpose. As of 2011-12, more than half of California school districts said they had eliminated or significantly reduced professional development, and nearly one-third had reduced the number of paid professional development days.³³

Funding for innovative programs, such as the California School Leadership Academy and the California Professional Development Institutes, has been eliminated altogether.

The elimination of funding for innovative programs is especially worrisome because of the extra demands of implementing the Common Core State Standards. It is now completely up to individual districts to provide the professional training needed, and the capacity of districts to do so varies tremendously.

“We like New Mexico’s three-tiered career ladder plan because it reflects a commitment from the state as a whole to support teacher development, leadership, and professional pay.”

—ACCOMPLISHED CALIFORNIA
TEACHERS, 2012

California now lags in professional development behind numerous countries whose students rank higher on international tests, such as Singapore, South Korea, and Finland. As Linda Darling-Hammond has noted, these countries typically offer 15 to 25 hours a week to plan classes and collaborate with other teachers.³⁴

Addressing the Challenge

Create meaningful renewal requirements that promote teacher learning.

Strategies should be devised to encourage teachers to engage in professional development—but without imposing such a burden that they deter prospective teachers from entering the profession or contribute to pushing out discouraged teachers.

How many hours of professional learning should be required and what those hours should consist of has been a topic of considerable debate. The Greatness by Design report suggests that required hours be broadly defined to cover a range of experiences including serving as a mentor teacher, participating in performance evaluations of new teachers, and engaging in collaborative learning on the school site—in addition to participating in seminars or courses.

To ensure such activities are relevant and meaningful for each teacher, the Teacher Preparation Advisory Panel suggests that teachers draw up individualized, five-year learning plans tied to the renewal of their credential and then center professional development activities around that plan.

Finally, any professional learning requirements should take into account the professional learning activities teachers may already take advantage of in their own districts, including participating in “professional learning communities”—teacher-led collaborations that focus on school improvement.³⁵ Ideally, any professional learning requirements for credential renewal would be fully integrated into the role teachers play in their own schools and communities.

Create a multi-tiered credential structure that provides incentives for teachers to engage in professional learning.

Another way to encourage further professional training is to provide incentives. A task force of the Council of Chief State School Officers recommends creating credential “tiers” that encourage teachers to engage in professional learning and also provide opportunities to hold teachers accountable.³⁶

An advantage of multiple tiers culminating in an optional leadership level is that they create a structured career path for educators while also rewarding progress with professional opportunities and compensation. A tiered structure also provides an accountability system for determining which teachers or principals advance in the system.



Kindergarten art class,
Redwood Heights Elementary School in Oakland

California currently has a two-tier credentialing process (a preliminary credential followed by a clear credential), but at least 17 states have a three-tier process that promotes the best teachers to a top leadership tier. In 2011, Ohio even instituted a four-tier system—starting with a “resident educator” license and followed by “professional educator,” “senior professional educator,” and “lead professional educator” licenses. Ohio’s top two tiers are optional and require a master’s degree and at least nine years of experience.

New Mexico’s three-tier system—a “provisional teacher” credential, a “professional teacher” credential, and an “instructional leader” credential—has in particular attracted attention.³⁷ In that state, teachers must present a portfolio of their work to show progress at each level. The third level is optional. Teachers qualify by earning National Board certification or completing a master’s degree. Each level has a corresponding minimum salary, so advancing from one tier to the next provides a potential opportunity for teachers to boost their pay as well.

Accomplished California Teachers, a network established by the National Board Research Center at the Stanford School of Education to provide support for teachers across the state, has suggested implementing a similar three-tiered model in California.

Multi-tiered credentials would help ensure that teachers stay up-to-date in both academic content and teaching methods, including strategies for teaching STEM and other content that may require updating more often than other instructional areas. Washington state lawmakers, for example, recently passed a bill requiring that credential renewal requirements include a focus on integrating instruction in science, technology, engineering and math.³⁸

The idea behind multi-tiered licensing is that it encourages ongoing teacher learning and promotes leadership opportunities, ultimately raising the prestige of the profession and giving teachers more say in how their schools operate.

This approach should be viewed within the context of developing alternatives to the traditional career “ladder” for teachers, which typically meant they moved into administration, taking them away from the classroom. The emerging concept is of providing career “lattices” for teachers—which offer them a chance to exercise leadership as instructional experts and in other ways that keep them close to the classroom. This represents a more “horizontal” career advancement trajectory in place of the traditional “vertical” one.

How much do California teachers get paid?

Number of California public school teachers
283,186 (2012-13)

Number of first-year public school teachers
13,398 (2013-14)

Average public school teacher pay
\$68,531 (2011-12)

Average beginning teacher pay
\$41,259 (2011-12)

Average national beginning teacher pay
\$36,141 (2012-13)

Data: California Department of Education, National Education Association. (Note: 2011-12 figures are the latest available for California teacher salaries.)



Special education class,
Redwood Heights Elementary School in Oakland

“I feel we need to bring special education and general education closer together—in the field and in preparation programs. Throughout many institutions of higher education, the faculties in these two areas don’t work together, don’t talk together, don’t collaborate...and I think in the field often the same thing happens.”

—SHANE MARTIN, MEMBER OF THE COMMISSION ON TEACHER CREDENTIALING AND DEAN OF GRADUATE STUDIES AT LOYOLA MARYMOUNT UNIVERSITY

CHALLENGE #5

Provide more comprehensive training in special education.

In the face of a shortage of special education teachers, California has responded by making it easier to go into this challenging field. Instead of requiring that candidates also hold a general teaching credential (single subject or multiple subject), California is one of the only states that allows teachers to go directly into special education with no preparation in the basics of regular classroom teaching.

Compounding the problem is the disproportionate number of so-called intern teachers who go into this high-needs area. Special education teachers can earn a credential by going through a regular teacher preparation program. But instead many enter through the intern pathway, which allows candidates to earn a credential while holding a paid teaching job. That means in some cases the teachers with the highest-needs students may have had only a few weeks of training.

Not only does California still suffer from a shortage of special education teachers, but the less rigorous standards also mean many aren’t getting adequate preparation or support.

Although the number of teaching interns has declined steadily during the past decade, these less-prepared teachers are still routinely found in special education. In 2011-12 and 2012-13, more than a third of new special education authorizations were intern credentials or other types of emergency permits.³⁹ And 2012-13 data also show nearly half of the 3,500 candidates earning full preliminary credentials in special education had earned that credential through an on-the-job intern program—as opposed to a traditional preparation program with a student teaching experience.

Some of these intern and emergency teachers may have had prior teaching experience, such as a regular classroom teacher who decides to seek a special education credential.⁴⁰ Others may have had only a few weeks of training before being expected to teach children with a range of complex disabilities—while also taking university courses toward a preliminary credential.

Cal State East Bay special education professor Ann Halvorsen told EdSource that while she believes intern programs can work when structured well, no teacher should enter a special education classroom without courses in teaching methods and the complexities of individual education plans.⁴¹

These matters are of such urgency that the State Board of Education and the Commission on Teacher Credentialing have convened a Statewide Special Education Task Force, with support from several California foundations, to answer, among others, the following question:

What types of changes in teacher preparation and credentialing are necessary to ensure all teachers are prepared to meet the array of learning needs of their students in the least restrictive environment?

The issue has a significant cost dimension. Special education students make up about 11 percent of California's student population, but they account for more than 20 percent of the state's K-12 education spending and, according to one estimate, some 40 percent of new dollars spent during the past decade.⁴²

As of May 2012, there were about 30,000 special education teachers in California. The Commission on Teacher Credentialing estimates the state is preparing only about half the number needed to serve nearly 700,000 students who are supposed to receive services.

Underscoring the fact that schools are still struggling to fill these positions, the commission in 2011-12 also found 2,200 teachers working in special education who were not prepared or authorized to provide the necessary services. Most of these were teachers who did not have the appropriate preparation to work

Intern program attracts career-changing candidates

Interns are teachers who enter the classroom after minimal preparation and work toward a credential on the job. It's a quick route to the classroom that allows candidates to earn a salary during training. But it also requires experienced teachers to navigate their first year while also juggling night and weekend classes toward a credential.

Abigail Mendoza, a math teacher at the private Christ Bridge Academy in the Los Angeles area, earned her credential by intern teaching at Los Angeles Unified while taking classes through CSU Dominguez Hills. Mendoza said juggling full-time teaching and credential classes was difficult.

"I was going insane," she said. "If I were not in the financial situation that I was, I definitely would not have gone that route. Your first year is already hard as it is."

The intern pathway was designed to provide an alternative route to certification and to help districts fill tough-to-staff areas such as special education. But it has had several unintended consequences, some of which are discussed in this report. Those include intern teachers not being technically eligible for beginning teacher support programs and a disproportionate number being placed in schools with high percentages of struggling students.

Despite its drawbacks, the intern credential has been useful in attracting mid-career candidates to teaching. In 2012-13, 47 percent of new intern teachers were older than 30—compared with 36 percent of new fully credentialed teachers.

Jay Harlow, now 61, is a special education teacher at Berkeley High School who says he likely would not have entered the classroom if it meant losing a year's pay while completing a traditional preparation program.

A highly regarded former food writer and book publisher, Harlow, at the age of 53, got into teaching through Oakland Unified's now-closed Oakland Teaching Fellows program for prospective math, science, and special education teachers.⁴³ The program began with eight weeks of intensive summer training. Then during the first year, Harlow enrolled in night classes at San Francisco State to earn his preliminary credential.

After two years in an Oakland middle school, he now runs a self-contained special education classroom at Berkeley High and recently finished his sixth year of teaching there. Harlow admits that it was "grueling" to begin working in the classroom after only eight weeks of preparation in the summer.

But his transition into the profession was made easier by not having a full teaching load during his first year and by sharing teaching responsibilities with a colleague. He also got mentoring from experienced teachers and department heads at the school site. "Frankly, they were happy to have another teacher and someone who had more maturity and life experience," he said.

“Science pedagogies can be more difficult to master, not only because it takes a lot of scientific content knowledge, but also because the pedagogies are complicated. You’re talking about inquiry and discovery and lab and hands-on types of learning, which is very different than the kind of pedagogies involved in, say, social science or English. The same thing applies to math.”

— CSU ASSISTANT VICE CHANCELLOR
BEVERLY YOUNG

with autistic children, whose numbers have skyrocketed in recent years.⁴⁴ Of the 4,400 intern credentials and other emergency-type permits the commission gave out in 2012-13, about half were in special education alone.⁴⁵

One of the drawbacks of having thousands of new special education teachers on intern credentials and emergency permits is that those teachers typically don’t get student teaching experience—widely considered the most crucial component of teacher training. They also are not eligible to participate in the Beginning Teacher Support and Assessment program because to do so requires a preliminary credential.

As the Greatness by Design report notes, in many cases intern programs place “full responsibility for teaching students with the most complex disabilities onto interns who receive just a few weeks of training prior to entering the classroom and do not have a cooperating teacher to watch, model, and ask questions of.”⁴⁶

As part of the effort to mainstream as many special education students as possible, the Individuals with Disabilities Education Act requires that special-needs students be educated alongside their peers in regular classrooms whenever possible. But only about half of special-needs students in California spend at least 80 percent of their time in a regular classroom.⁴⁷

The fact that there are not more special education students in regular classrooms may be related to the separation of general and special education teachers during preparation. General education teachers receive only minimal preparation in working with special-needs students, and special education candidates often do not learn the basics of regular classroom teaching.

Linda Darling-Hammond has said that the lack of cross-training may produce teachers less equipped to create an inclusive environment for special education children:

“One of the reasons we have such low participation in inclusion in this state is in part because we begin credentialing teachers only with a specialist credential—so they’re not able to work in an inclusion setting. And it’s in part because we do less than some other states around preparation for regular education teachers—so they don’t feel like they have the tools that they might need to be effective in that arena.”⁴⁸

Addressing the Challenge

Integrate special and general teacher preparation to ensure all are grounded in both regular classroom teaching and how to provide for the special needs of all students.

There is a consensus among educators that specialist and generalist teachers would benefit from a better understanding of each other’s fields and how to work together to best serve all students.

Improving preparation and credentialing in STEM

California continues to face a shortage of well-trained math and science teachers—a need that will become even more acute with the implementation of the Next Generation Science Standards.

Developing a corps of highly prepared math and science teachers presents challenges that cut across all others presented in this report.

The multiple challenges to meet this need in California were exhaustively documented in a 2007 report by the California Council on Science and Technology and the Center for the Future of Teaching and Learning. Among its many findings was that California “lacks a coherent system to consistently produce fully prepared teachers, especially science and mathematics teachers.” In particular, the report flagged the inadequate preparation of elementary school teachers.⁴⁹

During the past half-dozen years, some significant progress has been made.

A landmark 2010 report on STEM education stressed the importance of teachers not only having strong majors in STEM areas, but also pairing those majors with training in how to teach those subjects. “Too few teachers have been adequately prepared and supported to develop these two attributes,” wrote the President’s Council of Advisors on Science and Technology.⁵⁰

The report was followed by a White House initiative to recruit, train, and support at least 100,000 STEM teachers by 2021. Titled 100Kin10, the initiative is now well underway, with support from numerous state and national foundations.⁵¹

Several of the reforms highlighted in this report to improve preparation for all teachers would also bolster the preparation and credentialing of STEM teachers. These include:

- Expanding blended undergraduate programs that integrate an academic major with courses in pedagogy and hands-on practice.
- Implementing professional development requirements for credential renewal.
- Providing age-specific training for preK-3 and middle school.
- Strengthening support programs for new teachers.

However, there is a need for further reform and additional initiatives that focus specifically on preparing STEM teachers. Programs such as the California Teacher Pathway and CalTeach provide models for allowing math and science candidates to begin preparing during the undergraduate years.

A report prepared for the California STEM Learning Network, “STEM Can Lead The Way,” makes several noteworthy recommendations based on practices already in place in teacher preparation programs around the state.⁵² These include:

- Providing candidates with research and other types of opportunities in scientific laboratories, STEM after-school programs, and programs in other science-oriented institutions, such as the California Science Center in Los Angeles and the Lawrence Hall of Science in Berkeley.
- Retraining laid-off teachers to teach STEM subjects.
- Revamping new teacher support programs to include a focus on STEM.
- Upgrading the effectiveness of math and science mentor teachers in support programs by providing targeted training in these subjects along with release time for coaching.
- Boosting math and science content, as well as STEM-specific pedagogy, for all multiple-subject candidates.

“The solution is not about adding more course requirements,” the report cautioned. “What is taught in teacher preparation courses—and how it is taught—must change.”

It is self-evident that many young people with strong math, engineering, science, and computer backgrounds may be tempted to choose more lucrative career opportunities. Attracting them to the teaching profession and then ensuring—through strong support and meaningful career pathways—that they stay will be essential for successful implementation of the Next Generation Science Standards and STEM curricula in general.

Seventh grade chemistry class, Coliseum College Prep Academy in Oakland





Second grade garden class,
Redwood Heights Elementary School in Oakland

This is especially important as the state moves to the “response to intervention” (RtI) approach, which hinges on all educators working together to identify students that may need extra support. RtI is a process in which instead of waiting for students to fail, their needs are identified early and, with a team-based approach, addressed with the appropriate support. Placement in a separate special education program is only prescribed when absolutely necessary.

Some integrated teacher preparation programs allow teaching candidates to earn both a regular and special education credential at the same time. Cal State Long Beach, for example, offers a 149-unit program leading to a bachelor’s degree in liberal arts as well as credentials in general and special education. Cal State East Bay has a two-year, graduate-level program that integrates both credentials. Cal State East Bay also reserves seats in special education courses for candidates earning only a general education credential.

These rigorous programs require more time from students and more coordination among faculty than a regular credential program, making them more expensive for both students and universities. Therefore, financial support will be needed to expand such models and recruit more students to participate.

Short of requiring teachers to earn both credentials, preparation programs should make every effort to expose general and special education students to each other’s fields—and to teach them how to collaborate. This could come in the form of taking overlapping courses together or collaborating during field experiences.

Retrain credentialed teachers to teach special education—and then provide incentives to keep them there.

In order to attract better-prepared candidates, one strategy is to recruit some of the thousands of general education teachers who have been laid off in recent years to be retrained as special education teachers. This could be done by offering financial incentives, such as scholarships and student loan forgiveness if they teach special education for a certain amount of time. The Statewide Special Education Task Force estimates that it would cost \$5 million annually to retrain 500 teachers.

A parallel strategy would be to identify teachers who were prepared in special education, but have moved to general education classes. A 2007 survey by the CSU-based Center for Teacher Quality suggests there is a pool of already-trained specialists who are now teaching in regular classrooms. The center surveyed about 1,000 teachers holding special education credentials and learned that more than a third had transferred to general education classes. Of those who had transferred, 28 percent said they would consider returning to special education if working conditions improved—even without an increase in pay.⁵³



Redwood Heights Elementary School in Oakland

The center pointed out that improvements would largely need to happen at the school level. It recommended that schools carefully track specialists to determine why they leave—and then attempt to fix those issues, including finding ways to improve the relationship with general classroom teachers and reduce the paperwork burden shouldered by special education teachers.

Ensure new special education teachers have institutional support and access to mentoring programs.

One of the main problems with special education preparation is that the current system disproportionately places teachers with minimal training in some of the most challenging classrooms—and then fails to provide consistent support.

With just a few weeks of training, mentor support is critical. But intern programs have long been underfunded, resulting in a huge variation in the quality and consistency of mentoring.⁵⁴ The absence of dedicated intern funding under the new Local Control Funding Formula is unlikely to improve the situation. The Commission on Teacher Credentialing has also noted that a shortage of veteran special education teachers may make it difficult to find appropriate mentors.⁵⁵

Because interns do not hold preliminary teaching credentials, they do not qualify for the Beginning Teacher Support and Assessment program. Special education teachers who come through traditional programs and hold a preliminary credential do qualify. But as BTSA programs are defunded, some are now charging special education teachers as much as \$2,000 per year. In many districts, the support programs simply don't exist for special education, making it difficult for these teachers to upgrade their credential as required by state law.⁵⁶

New special education teachers, whether interns or fully credentialed, must have access to mentoring and support—an issue we'll discuss more in Challenge #6.



Transitional kindergarten class,
Carver Elementary School in Long Beach

CHALLENGE #6

Strengthen new teacher support, especially during the first two years.

The large number of teachers who leave the profession during their first years on the job represents a huge loss of talent—and a waste of resources invested in training them in the first place. Some estimates place the national attrition rates of teachers after five years in the profession at 50 percent or more.⁵⁷ While there is some dispute as to how to interpret those estimates,⁵⁸ study after study has shown that mentoring can significantly reduce attrition rates.⁵⁹

California's teacher attrition rates may not be quite as high as those on a national level. One study placed the rate at 22 percent after four years in the classroom.⁶⁰ But the state has long recognized the importance of providing strong mentoring and support for beginning teachers.⁶¹ For about 10 years, new teachers have been required to complete an induction program—typically the Beginning Teacher Support and Assessment (BTSA) program—before they can apply for a “clear” credential, a required upgrade to stay in the profession.

The program pairs new teachers with mentors who guide them through the challenges faced by all beginning teachers. Until 2009, the state had dedicated “categorical” funding for the program through the Teacher Credentialing Block Grant. At its peak in 2007-08, the amount allocated was \$128.6 million—an average of \$4,069 for every participating teacher. Funds covered a range of expenses, including paying mentors and administrative costs.

But in response to the state's budget crisis, all categorical funds were reduced by about 20 percent, leaving less funding for BTSA. The Legislature also removed restrictions on how districts could spend the remaining funds. That meant dollars once reserved for new teacher mentoring now could now be used for “any educational purpose.”

Dedicated funding for new teacher mentoring appears to have been permanently abolished under the Local Control Funding Formula. In addition, the matching contribution of \$2,000 that local districts were required to make has been eliminated.

The program has suffered as a result. Teacher enrollment, which reached its peak of just over 30,000 in 2007-08, plummeted to slightly more than 13,000 in 2010-11 at the height of budget cuts. By 2012-13, the numbers had risen to 16,354 but remained substantially below the peak.⁶²

Some of these reductions can be accounted for by drastic layoffs during the past five years, with new teachers being the ones most likely to be let go. But the absence of programs and the fact that some teachers must now pay for them are also contributing factors.

More than half of all school districts have diverted money away from the BTSA program, according to the Legislative Analyst's Office. By early 2012,



Twelfth grade calculus class, Glendale High School in Glendale

20 percent had pulled all funding, and another 17 percent had shifted away a substantial amount, analysts found.⁶³ A survey by the RAND Corporation showed even higher figures. According to the survey, half of school districts eliminated all funding for the program in 2010-11, and only 33 percent of schools kept their programs fully intact.⁶⁴

Since categorical funding was eliminated, some of the 156 Beginning Teacher Support and Assessment programs around the state have begun charging teachers as much as \$2,000 per year to participate. Many other districts have begun capping enrollment, meaning some new teachers receive support and some don't.⁶⁵ Oakland Unified, for example, began the 2013-14 school year with a waiting list of 90 teachers in addition to the 200 already enrolled.

Oakland Unified BTSA Director Kafi Payne told EdSource that the loss of dedicated per-teacher funding means her program simply can't serve all the teachers who need it at one time. "We never had wait lists before," she said. "But we aren't going to charge our teachers to enroll, so we prioritize (who can participate) by the expiration date of their credentials."

San Francisco Unified BTSA Supervisor Caroline Satoda said her program now offers less training and pay for mentors and struggled to serve the roughly 300 teachers that needed the program in 2013-14. Without dedicated funding from the state, she said, the program has devolved into "another unfunded mandate."

These practices appear to be widespread. As Commission on Teacher Credentialing staff have noted:

*"An additional reality is the fact that some programs are 'capping' new teachers they will serve, resulting in inequities within a district as some new teachers receive induction services and others are faced with having to search and pay for induction services outside of their district or teach, largely unsupported, in a classroom for a year or more until they reach the top of the program's waiting list."*⁶⁶

At the same time, it is also clear that the program, even when funded by the state, has been of uneven quality. In many instances, participating teachers feel that it is repetitive of their preparation programs and also involves too much paperwork. As Julia Koppich and her associates have noted in a report published by SRI International:

*"The beginning teachers who find BTSA curriculum duplicates teacher preparation see redundancy, not reinforcement. BTSA paperwork requirements also contribute to the sense of doubling back on what already has been done. Interviewees told us that many of the program's paperwork requirements are burdensome, duplicative, and do not contribute significantly to induction."*⁶⁷

“We expect the most of our teachers...and we give them less training and support than virtually any other state.”

—LINDA DARLING-HAMMOND, 2013
EDSOURCE SYMPOSIUM IN SAN JOSE

Mai Yang, who recently finished her fourth year as a 7th grade math and science teacher at Rio Linda Preparatory Academy in Twin Rivers Unified near Sacramento, told EdSource that her BTSA program “felt like a drag to go through.”

“It was nice to have a mentor and to have someone to talk to,” she said. But she also felt it covered ground she had already gone over in her preparation program at Sacramento State.

Jeanne Beam, another Sacramento State graduate who teaches at Bannon Creek Elementary in Natomas Unified, also emphasized the redundancy of the support program. “I can honestly say I have already done everything in (my preparation program) that I am doing in BTSA,” she said. “It shows how good the program was at Sac State.”

Ellen Moir, founder and CEO of The New Teacher Center at UC Santa Cruz, played a central role in launching the BTSA program. She told EdSource that the program has perhaps “focused too much on compliance rather than on quality.”

“If it is just about compliance, then recipients ... hate it,” she said. “But if you use it as a professional development strategy, and teachers feel they are getting help over time, they like it.”

Despite the criticism, Moir said the BTSA program is still important and worth preserving. “You don’t throw the baby out with the bathwater,” she said. “You’ve got to get teachers off to a great start, embed practices like personalized instruction, teach these teachers to become the best teachers from the beginning.”

Another concern identified by Koppich and her colleagues is that temporary teachers—those replacing someone on leave, for example—are often excluded, as are interns. Koppich estimates that temporary teachers make up some 24 percent of all first- through third-year teachers. If the BTSA program is to be reinvigorated, these concerns will have to be addressed.

Addressing the Challenge

Ensure that all teachers, including those on temporary status or intern credentials, are eligible for high-quality support programs.

Typically, only teachers who have a preliminary credential and a regular teaching job are eligible to participate in the Beginning Teachers Support and Assessment program.

But as Koppich’s report “California’s Beginning Teachers: The Bumpy Path to a Profession” reveals, a surprisingly large number—perhaps the majority—of beginning teachers don’t begin their careers in a “traditional” fashion, but rather start out in some kind of temporary status. This would include, for example, a fully credentialed teacher hired as a long-term substitute or to fill in for a teacher on leave.

As a result, many new teachers are not eligible to participate in the BTSA program and enter the classroom without structured support. Teachers excluded from BTSA should be provided with alternative, high-quality support programs.

Restore targeted state support for the Beginning Teacher Support and Assessment (BTSA) program.

Several BTSA leaders interviewed by EdSource said the best way to ensure that new teachers are supported would be for the state to return to a system in which districts are financially rewarded for enrolling new teachers in structured mentoring. They said it sends a mixed message to require BTSA for credentialing while at the same time withdrawing dedicated funding for the program.

A recent attempt to restore targeted funds for BTSA through Assembly Bill 470 failed to even make it out of committee. School district leaders also generally oppose a return to any restrictions on how funds are spent. But because of the crucial importance of supporting new teachers, the Legislature must find a way to support the BTSA program. Too much has been invested during the past 20-plus years to let the program wither away now, especially when what's at stake is the quality of the state's teaching force.

In the absence of state support, Ellen Moir of the New Teacher Center believes there should be a uniform fee across the state that every teacher pays—say between \$250 and \$500—in place of the patchwork approach now in place, with some districts charging fees and others not. Otherwise, some districts—presumably, the most financially strapped—could find themselves disadvantaged when it comes to hiring. Teachers may prefer to work at better-funded districts that don't charge fees for a support program required for a permanent teaching credential.

Although a uniform fee would certainly be preferable to fees up to \$2,000, ideally teachers should not have to pay for their own support program. It's also unlikely that \$500 per teacher will be enough to reinvigorate a program that used to receive \$6,000 per teacher in state and local funds.

There is widespread agreement that the BTSA program has become weighed down by bureaucracy and needs to be refocused on strong mentoring rather than paperwork.

As Beverly Young, CSU assistant vice chancellor and credentialing commission member, put it recently, "I used to think ... that BTSA was the best thing the state had ever done in K-12 education and teacher ed, and I couldn't say that anymore because I think it's changed so much as we've bureaucratized it."

At the same meeting, Linda Darling-Hammond also noted that only one quarter of BTSA funds are spent on mentors, perhaps the most crucial element of the program.



Twelfth grade calculus class, Glendale High School, Glendale

CHALLENGE #7

Attract more teachers to the profession.

Enrollments in teacher preparation programs in California have declined at a precipitous rate, according to figures prepared for the Commission on Teacher Credentialing. The report indicates that 19,933 students were enrolled in teacher preparation programs in 2012-13—a 24 percent reduction from the previous year’s total of 26,231 students. That was the second year in a row that enrollment had declined that much. Enrollments have been steadily declining—dropping by 74 percent from 2001-02, when 77,705 students were enrolled.

The decrease in enrollments is echoed by similarly declining numbers of teaching credentials. The California State University system, which has traditionally produced about half of the teachers in the state, issued only 5,787 credentials in 2011-12. That number rose slightly in 2012-13 to 6,011, but is still down from 13,933 in 2003-04, according to CTC figures.⁶⁸

It is impossible to know what precisely is causing the drop in numbers, but experts point to multiple factors.

One is that during the past five years, the teaching profession in California has been devastated by layoffs. Between 2007-08 and 2010-11, the teaching force in California shrank by 32,000, or nearly 8 percent. The Legislative Analyst’s Office estimates that about half of the reduction was the result of layoffs and the other half because of retirements.⁶⁹

The declining numbers in teacher preparation programs could be a natural response to the budget crisis and the massive layoffs inflicted on teachers. Except for openings in high-need areas—special education, math and science, and English learners—it may be difficult for new teachers to find positions, especially in school districts or geographic areas of their choice.

In addition, working conditions for teachers continue to deteriorate. The latest national survey by MetLife found that teacher satisfaction levels had plummeted, perhaps not coincidentally at about the same rate as the drop in enrollments in California teacher education programs. In 2008, 62 percent of teachers expressed satisfaction with their jobs, the highest level since 1984. By 2012, only 39 percent said they were satisfied—about the same level as in 1984.

Another possible cause has to do with the regimen of reforms that have put unprecedented pressures on teachers, such as the negative sanctions of both the federal No Child Left Behind law and the state’s Standardized Testing and Reporting program. As described in a report by the Center for the Future of Teaching and Learning at WestEd, teachers in California have faced “a new normal of rising expectations and reduced support.”

It is likely there will be a natural bounce back as the economy improves and districts begin to hire more teachers. But what is unknown is how many

“I have loans that I needed to get my undergraduate degree and loans from getting my credential. I don’t need a high salary, but the fact that I am still paying off loans 10 years later is atrocious.”

— KELLY MACK, BTSA
INSTRUCTIONAL COACH, SAN JOSE
UNIFIED SCHOOL DISTRICT

teachers will retire in the coming decade. Retirements slowed during the economic downturn. Some older teachers, worried about the state of their savings during the recession, delayed retiring. But as the economy picks up, more retirements are inevitable. What is unclear is whether enrollments in teacher preparation programs will increase fast enough to produce the teachers needed to replace the retirees.

Addressing the Challenge

Design reforms of teacher preparation and credentialing to encourage prospective teachers to enter the profession.

Because it has been a decade and a half since the last major reform of California’s teacher preparation and credentialing system, there is a danger that new mandates will discourage candidates from entering the profession.

Instead, the reforms imposed should be in the spirit of the changes championed by Gov. Jerry Brown for the K-12 system, which is to move away from top-down mandates from Washington and Sacramento and drive more decision making to a local level. There is a need to balance state oversight of teacher training with strategies that allow for innovation and experimentation at the local level.

Equally important is that reforms be designed with the critical need to recruit a teacher work force that reflects the linguistic, ethnic, and racial diversity of California’s 6.2 million student population.

That means that school districts should be directly engaged in providing input as to what kinds of skills they need in the teachers they hire to educate the next several generations of children.

It means figuring out ways to reform the education workplace itself so that teaching becomes a profession that attracts both young people and those seeking second careers—and so that a decision to become a teacher is not viewed as a sacrifice, but rather as an affirmative choice to enter a profession with high status rewards on many levels, even if not financially.

Give new teachers the opportunity to thrive with strategies such as a reduced workload that allows time for collaboration and innovation.

As a way to avoid burnout, beginning teachers should be given a partial workload in their first and second years. This will give them an opportunity to ease into the classroom, prepare lessons that they will be teaching for the first time, and observe other teachers. “It would be awesome (not to have a full load); it would give you time to plan and reflect,” said Kelly Mack, a San Jose Unified BTSA coach who recently finished her eighth year of teaching.

It would also give new teachers the opportunity to observe other teachers. Rosalie Yu is a BTSA mentor who recently finished her fourth year of

teaching at McKinley Elementary School in San Jose. She says the program is most successful when teachers are given time to examine other classroom practices, ideally those of their mentor teachers.

Although much harder to address systemically, administrative and institutional support for new teachers must also be a major focus of any reform strategy if the experience of 26-year-old Ke Wu, who was a teacher at John C. Fremont High School in Los Angeles until June 2013, is to be avoided.

Wu said that daily bureaucratic requirements overshadowed other more obvious drawbacks of the job. “I never felt that the finances (of getting a teaching credential) and the low salary were a problem,” she said. “I would have loved to have focused all my time on teaching, but having to take attendance and upload all their grades made things logistically more difficult, especially with more than 300 students.” On top of that, she came to the school at a turbulent time in the wake of a major restructuring ordered by then-Superintendent Ramon Cortines.

Wu also felt that she got little support from the administration for various innovations she proposed, including a plan to offer college counseling to seniors after the school’s regular counselors were laid off. Wu has since left teaching and is now a law student at New York University.

Encourage leaders in business, education, and civic life to implement a “Be a Teacher” campaign aimed at attracting new teachers to the profession.

In the early 1960s, faced with a burgeoning population and economy, California launched a campaign to lure teachers from the Midwest. The campaign was a success. Teachers flocked to California.

Now is the time to recruit enthusiastic young people to the profession from California itself—and not just those who want to spend two years in the classroom as a stepping stone to graduate school.

This will require targeting diverse populations of California with sophisticated communications strategies, including online campaigns that underscore:

- The contributions that teachers can make to the lives of young people and to society.
- The different pathways into the profession.
- The resources available to help in traversing those pathways.
- The diverse lives and experiences of young people who have entered the profession.
- The areas in which California has an urgent need for a new generation of teachers, such as math and science, special education, and language instruction.

“You are asking us to prepare people as professionals, but then you treat them as if they don’t know anything or as if they shouldn’t make their own decisions about how to treat children. You have to trust teachers that they know what they are doing and that they have children’s best interests at heart. It is really, really hard work.”

— ELAINE CHIN, DEAN OF
THE CONNIE L. LURIE
COLLEGE OF EDUCATION,
SAN JOSE STATE UNIVERSITY

Underwrite the cost of becoming a teacher for talented individuals who are willing to commit to high-need fields and locations.

A communications campaign to recruit teachers will not be effective if the state does not assist candidates financially. California is still struggling to overcome the impacts of the Great Recession. College costs have risen, and public education is no longer the bargain that it once was. The reality is beginning teacher salaries are appallingly low, especially in a state with relatively high living costs. It is essential that as many barriers as possible be removed for young people and career-changers contemplating becoming teachers.

There are few better careers or courses of study in which an investment of significantly more state, philanthropic, or private sector funds could be made.


CONCLUSION

Effective preparation of teachers is an essential dimension of the education enterprise, especially with the implementation of the Common Core State Standards, along with the Next Generation Science Standards. Various distinguished panels have made numerous recommendations to improve the preparation and credentialing process—perhaps too many. The plethora of suggestions that has been put forward has resulted in the lack of a unified strategy to tackle this issue.

This report was intended to find areas of consensus and to highlight some of the most promising reform proposals. To that end, we have identified seven key areas in teacher preparation and credentialing that need to be addressed.

Teachers are at the heart of the education enterprise. Ensuring that the most effective teachers enter the profession and enjoy success from the outset is essential to retaining them in the classroom and vital to ensuring success for their students. The key, as author Michael Fullan has noted, is to have teachers be driven by intrinsic motivations, rather than external sanctions that will be imposed if they do not succeed:

“However you do it, whether you do it via other teachers helping, through principals and coaches helping them to do it, you want to give teachers new skills and new experiences that get success that they’ve never had before, and as a result of that, their intrinsic motivation kicks in more strongly.”⁷⁰

The recommendations outlined in this report would shift the emphasis of teacher effectiveness reforms beyond the unnecessary controversy as to whether a teacher should be evaluated based on how well their students do on standardized tests or other measures of academic growth. Equally important, it is essential that these reforms be implemented in tandem with other major reforms being rolled out across California, such as the Local Control Funding Formula and Common Core State Standards. The success of each is inextricably linked. 

INTERVIEWS CONDUCTED

Rick Ayers, Adjunct Professor, University of San Francisco

Elaine Chin, Dean, Connie L. Lurie College of Education, San Jose State University

Linda Darling-Hammond, Professor of Education, Stanford University; Chair, California Commission on Teacher Credentialing

Michael Fullan, Professor Emeritus, Ontario Institute for Studies in Education

Cynthia Grutzik, Associate Dean, Long Beach State College of Education; President, California Council on Teacher Education

Ann Halvorsen, Professor, California State East Bay Department of Educational Psychology

Deborah Kong, Executive Director, Early Edge California

Julia Koppich, President, J Koppich & Associates

Kelly Mack, Program Adviser/Instructional Coach, San Jose Unified School District

Eloise Lopez Metcalfe, Interim Director, University of California, Los Angeles Extension Education Department

Ellen Moir, Founder and CEO, New Teacher Center

Theresa Montaño, Associate Professor of Chicano Studies and Education, California State Northridge; Member, California Teachers Association Board of Directors

Kafi Payne, Director, Oakland Unified School District BTSA Program

Sandy Sanders, Co-Director, California Teacher Pathway

Caroline Satoda, Supervisor, San Francisco Unified School District BTSA Program

Page Tompkins, Founder, Reach Institute for School Leadership; Co-Chair, Teacher Preparation Advisory Panel

Pia Wong, Chair, Department of Teaching Credentials, California State Sacramento; Co-Chair, Teacher Preparation Advisory Panel

Beverly Young, Assistant Vice Chancellor of Teacher Education, California State University; Member, California Commission on Teacher Credentialing

TEACHERS (interviewed during 2013-14 school year):

Max Anders, San Francisco Unified School District

Jeanne Beam, Natomas Unified School District

Dana Dooley, Roseville Joint High School District

Jay Harlow, Berkeley Unified School District

Kristina Hohmann, California State Fullerton Credential/Master's Candidate

Jonathan Jonas, Galt Joint Union High School District

Yuvia Lopez, Lynwood Unified School District

Abigail Mendoza, Christbridge Academy

Bethanny Schwappach, Cajon Valley Union School District

Victoria Vasquez, Alliance Dr. Olga Mohan High School

Ke Wu, formerly of Los Angeles Unified School District

Mai Yang, Twin Rivers Unified School District

Rosalie Yu, Franklin-McKinley School District

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