

California's Special Education Teacher Shortage

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The release of the first version of this report stated (on pp. 19 and 27) that caseloads for special education resource specialists can exceed 32 students with approval of a state waiver; in fact, caseloads can increase up to (but not beyond) 32. The updated report and brief were released in March 2020.

Executive Summary

California is in the midst of a severe and deepening shortage of special education teachers. The result is that many of the most vulnerable students—those with disabilities—are often being taught by the least qualified teachers. Without resolving the shortage, the state will continue to struggle to close widening achievement gaps between students with and without disabilities, and to provide students with disabilities the education they need—and are entitled to, under federal law—to live independently as adults, engage in learning opportunities beyond high school, and secure employment.

To help decision makers better understand the nature of the shortage and what can be done about it, we conducted data analyses and a literature review to provide an updated picture of the shortage and its causes. We analyzed publicly available data on teacher credentials from the California Commission on Teacher Credentialing. We also examined data from the 2017 Teacher Education Program Capacity Survey. Finally, we complemented our analysis with research on teacher attrition and views from a focus group of nine current special education teacher leaders, representing districts across California and classrooms with students of diverse needs and grade levels.

We find that increases in demand for special education teachers, coupled with declines in teacher preparation enrollments and ongoing high attrition, have contributed to the severe shortage of special educators in California. In addition, the research we reviewed shows that attrition of special education teachers is associated with inadequate preparation and professional development; challenging working conditions that include large caseloads, overwhelming workload and compliance obligations, and inadequate support; and compensation that is too low to mitigate high costs of living and student debt loads. Special education teachers in our focus group describe these conditions in California and their contribution to special educator attrition.

Given the severity of the shortage and the multifaceted set of challenges that special educators face, resolving the shortage will require comprehensive, proactive policy solutions. Strategies could include the expansion of high-retention pathways into teaching that both recruit and retain teachers, as well as solutions that reduce attrition. These can include increasing access to high-quality preparation and professional learning, improving working conditions, and ensuring that teachers have the supports they need to work effectively with students with disabilities.

Introduction

Since 2014–15, California districts have reported worsening shortages of teachers, with the most severe shortage occurring in special education. The situation is a “five-alarm fire,” with two of every three new recruits entering without having completed preparation (Darling-Hammond et al., 2018). As a result, the most vulnerable students—those who have the greatest needs and require the most expert teachers—are often being taught by the least qualified teachers. This ongoing shortage of special educators threatens California’s ability to fulfill the promise of the Individuals with Disabilities Education Act (IDEA), the landmark body of federal law that entitles all students with disabilities to the education they need to secure employment, pursue learning opportunities beyond high school, and live independently as adults.

This is particularly concerning given the persistence of achievement gaps between students with disabilities and those without disabilities. A state special education task force report noted that California’s students with disabilities achieve and graduate at rates much lower than those in many other states, are educated in much more segregated settings than their counterparts elsewhere, and are more frequently taught by underprepared teachers (California’s Statewide Taskforce on Special Education, 2015).

Statewide assessment scores for 2018–19 show that in math, only 13 percent of students with disabilities met or exceeded state standards, compared to 43 percent of students without disabilities; and in English language arts, only 16 percent of students with disabilities met or exceeded state standards, compared to 55 percent of students with no reported disability (California Department of Education, n.d.-b). Further, between 2017–18 and 2018–19, achievement gaps between students with disabilities and those with no disabilities grew in multiple grade levels in both English language arts and math.¹

In 2019, 333 school districts and county offices of education were identified under the state’s recently implemented accountability system as needing county or state assistance; of these, 187—over half—were identified due to poor outcomes for students with disabilities (California Department of Education, 2019). Without a stable supply of fully prepared special education teachers, it will be difficult for districts to close achievement gaps and improve outcomes for their students with disabilities.

¹ Source: LPI analysis of publicly available data from the California Department of Education’s California Assessment of Student Performance and Progress website. Available at <https://caaspp-elpac.cde.ca.gov/caaspp/ViewReport?ps=true&lstTestYear=2018&lstTestType=B&lstGroup=2&lstSchoolType=A&lstGrade=13&lstCounty=00&lstDistrict=00000&lstSchool=0000000&lstFocus=btnApplySelections> and <https://caaspp-elpac.cde.ca.gov/caaspp/ViewReport?ps=true&lstTestYear=2019&lstTestType=B&lstGroup=2&lstSchoolType=A&lstGrade=13&lstCounty=00&lstDistrict=00000&lstSchool=0000000&lstFocus=btnApplySelections> (accessed 11/8/2019).

Unfortunately, studies show that California’s teacher shortages have worsened in recent years, and that the shortage in special education is especially dire. A 2017 survey revealed that 80 percent of sampled districts (representing one quarter of the state’s enrollment) reported shortages of qualified teachers for the 2017–18 school year, and of those districts registering shortages, 90 percent reported that they were as bad as or worse than in the previous year (Sutcher et al., 2018). For special education in particular, a recent report from the *Getting Down to Facts II* studies notes that nearly 8 in 10 California schools are looking to hire special education teachers, and 87 percent of principals at those schools report that hiring is a challenge (Darling-Hammond et al., 2018).

Compounding the limited supply of fully prepared special education teachers is the problem of turnover in special education. Between the 2015–16 and 2016–17 school years, more than one out of five teachers in special education schools left their positions, more than in any other subject area (Darling-Hammond et al., 2018). When districts cannot fill a position with a fully prepared teacher, they have few good options: California districts report dealing with shortages by hiring long-term substitutes or underprepared teachers (i.e., those entering with substandard credentials or permits), allowing class sizes and caseloads to grow, or restricting the courses that are offered.

The state has begun addressing teacher shortages, investing since 2016 in several programs aimed at recruiting and retaining teachers. Among the most recent investments were one-time funds that established teacher residencies to recruit and train teachers in special education; a grant program to support “local solutions” for special education teacher recruitment and retention; and the Golden State Teacher Grant Program, which will provide one-time scholarships to students enrolled in teacher preparation programs (TPPs) and who commit to working in a high-need field at a priority school for four years after receiving their credentials. Because these investments were only recently made, they will take time to yield qualified teachers.

A key policy question is whether these programs, funded on a one-time basis in the state budget, will be enough to address the special education teacher shortage or whether more still needs to be done—and if so, what? The goal of this report is to help decision makers better understand the nature of the special education teacher shortage, its consequences, and options for addressing it. In addition to providing an update on the status of the shortage, we examine possible sources of the shortage, identify key pre-service and in-service challenges for special education teachers, and offer potential solutions. We also incorporate the views of current special education teachers who participated in a recent focus group, in which they described in their own words the critical challenges they face and the factors that influence teachers’ decisions to stay in or leave the profession. (See Appendix A for a description of our methodology.)

As described in this report, shortages have continued and deepened over the last six years, and special education teachers face a complex set of challenges, both in their pre-service preparation and once they enter the teaching profession. Our analyses shed light on the steps that may help ensure that special education students in California have the teachers they need to succeed.

Status of the Shortage: Scope and Severity of the Problem

The field of special education has long been plagued by persistent shortages of fully certified teachers, in large part due to a severe drop in teacher education enrollments and high rates of attrition for special educators (Sutcher et al., 2016). In addition, California’s steadily growing enrollment of students with disabilities over the past decade has further increased the demand for special education teachers (Hill et al., 2016). Based on publicly available data from the California Department of Education (CDE), the enrollment of students with disabilities increased by 13 percent between 2014–15 and 2018–19, from about 642,000 students (about 10.3 percent of the student population) to about 725,000 students (about 11.7 percent of the total). (See Table 1.) Total student enrollments in California dropped by about 1 percent during the same period. As a result, both the total number and the proportion of students with disabilities have increased. Research indicates that this type of growth, which is consistent with national trends, may be related to increased prevalence of disabilities, increased awareness and diagnosis of certain conditions, or lack of access to adequate instruction and supports (Aron & Loprest, 2012; Houtrow et al., 2014; National Center for Education Statistics, 2018, Table 204.70).

Table 1. California Student Population, 2014–15 to 2018–19

	2014–15	2015–16	2016–17	2017–18	2018–19
Total K–12 students	6,235,520	6,226,737	6,228,235	6,220,413	6,186,278
Students with disabilities	641,798	661,572	679,525	703,977	725,412
Percentage of students with disabilities	10.3%	10.6%	10.9%	11.3%	11.7%
1-year change in number of students with disabilities	--	3.1%	2.7%	3.6%	3.0%
4-year change in number of students with disabilities	13.0%				

Source: California Department of Education. (n.d.-a). DataQuest. Available at <https://data1.cde.ca.gov/dataquest/> (accessed 12/12/2019).

Note: Student enrollment data include all K–12 students enrolled on Census Day (the first Wednesday in October). These data are submitted to the California Department of Education by local educational agencies and charter schools.

At the same time, as California's school budgets recovered from an era of cuts and teacher layoffs, districts' efforts to hire more teachers to restore programs and reduce class sizes also increased teacher demand. As we show in the next section of this report, shortages emerged in 2015 and have deepened in each of the subsequent years, presenting an increasingly critical challenge to providing adequate educational opportunities to students with disabilities.

Increase in Substandard Credentials and Permits

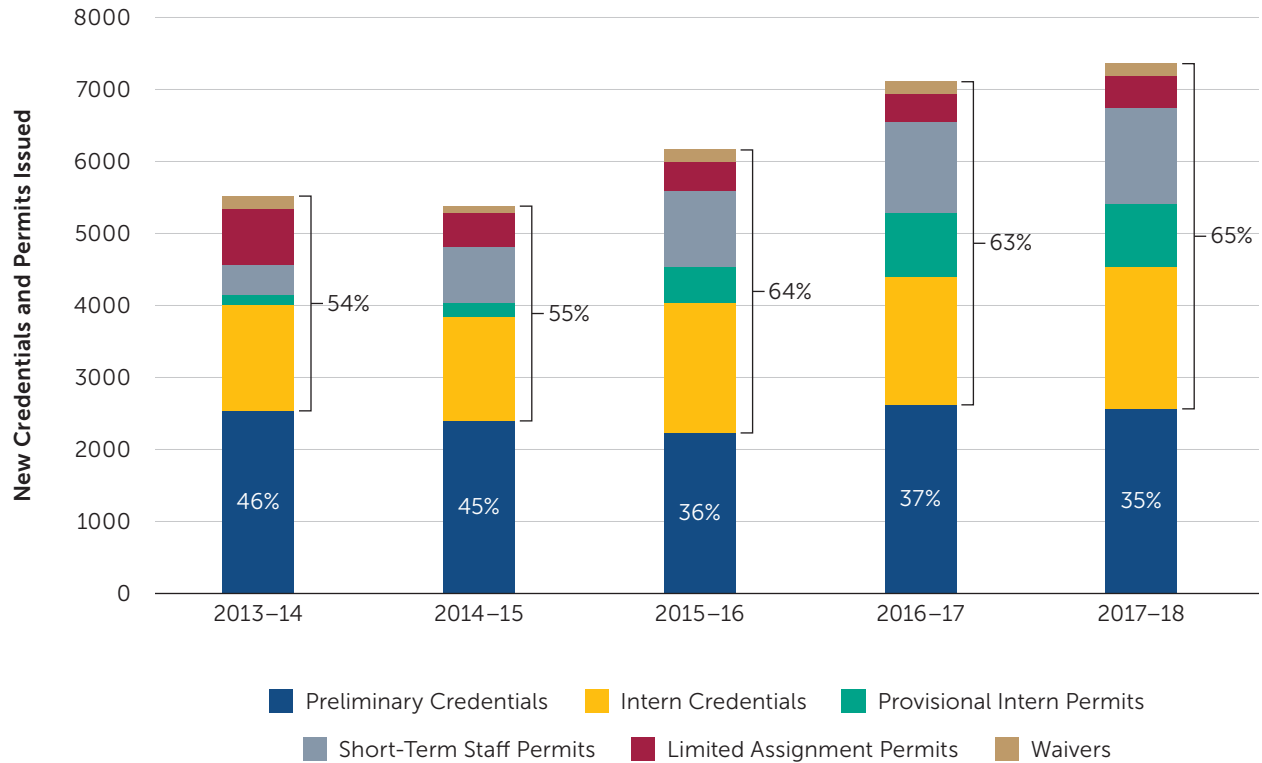
A key indicator of shortages is the prevalence of substandard credentials and permits, which are issued to candidates who have not completed the testing, coursework, and clinical experience that the California Commission on Teacher Credentialing (CTC) requires for full credentials. Full credentials include preliminary credentials, which are issued to new, fully prepared teachers, and clear credentials, which are awarded upon completion of an induction program.

By law, districts are expected to hire teachers on substandard credentials and permits only when a fully credentialed teacher (that is, a teacher who holds either a preliminary or clear credential) is not available. Substandard credentials and permits include:

1. Provisional Intern Permits (PIPs), Short-Term Staff Permits (STSPs), and waivers: One-year, emergency-style permits issued to individuals who have not completed teacher preparation nor demonstrated subject-matter competence.
2. Limited Assignment Permits: Permits issued to fully credentialed teachers to teach outside of their subject area to fill a staffing vacancy or need.
3. Intern credentials: Credentials issued to teachers in training who have demonstrated subject-matter competence but have not completed teacher preparation or met the performance assessment requirements for a license (California Commission on Teacher Credentialing, 2015b, 2015c, 2017a, 2018b, 2019a, 2019c, 2019e).

In recent years, the number of substandard credentials and permits issued in special education has grown. According to the most recent data from the CTC, in 2017–18, the state issued 4,776 special education substandard credentials and permits (including PIPs, STSPs, waivers, Limited Assignment Permits, and intern credentials). This is the largest total in the last decade and an increase of more than 60 percent since 2013–14. In contrast, the number of preliminary special education credentials issued to California-prepared teachers has remained mostly flat, with 2,553 issued in 2013–14 and 2,575 in 2017–18 (see Figure 1).

Figure 1. New Special Education Credentials and Permits Issued in California, 2013–14 to 2017–18 (excluding preliminary credentials issued to teachers entering from out of state)



Source: California Commission on Teacher Credentialing data dashboard. Available at <https://www.ctc.ca.gov/commission/reports/data/edu-supl-ipw> and <https://www.ctc.ca.gov/commission/reports/data/edu-supl-creds> (accessed 10/11/2019).

Note: CTC data on preliminary credentials issued to teachers from out of state are excluded from this analysis.

As a result, about two thirds (65 percent) of newly hired California special education teachers are on substandard credentials and permits, the greatest proportion of any major subject area (Sutcher et al., 2016). Of these substandard credentials and permits, about half (2,355) were emergency-style PIPs, STSPs, and waivers granted to individuals without teacher preparation or subject-matter competence. Out-of-state teachers provide an additional portion of teacher supply; however, the 500 to 700 new out-of-state special education credentials issued yearly are not enough to meet growing demand (California Commission on Teacher Credentialing, 2014, 2015d, 2016b, 2017c, 2018c, 2019d).

Decline in Teacher Preparation Enrollments

Since 2001, overall teacher preparation enrollments in California for all subjects have declined by more than 70 percent, and program completers have also decreased (Darling-Hammond et al., 2018). These trends have affected preparation for special education.

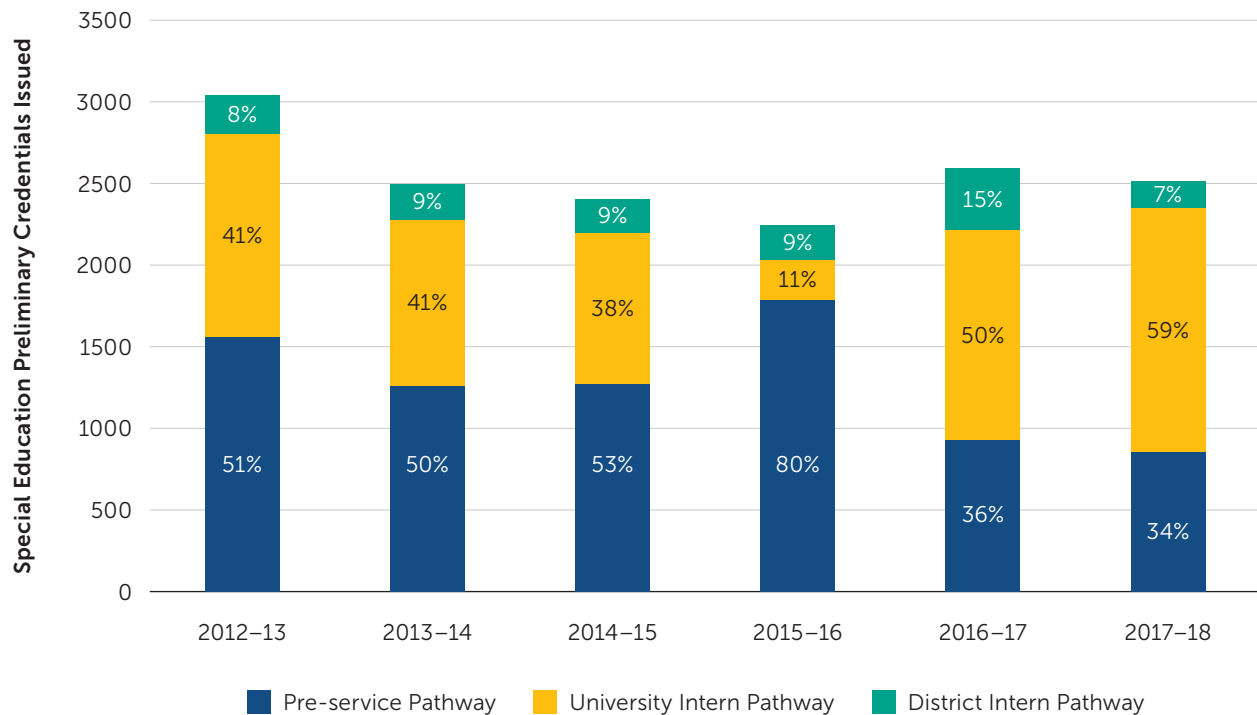
California has multiple pathways to earning a preliminary credential. Pre-service teacher education programs in California are post-baccalaureate credentialing programs offered by institutions of higher education (IHEs). These programs typically take 9 to 12 months for full-time enrollees to complete and are the most direct way of ensuring that students are taught by certified teachers. More recently, the state has opened up undergraduate pre-service pathways and funded a number of new programs as models.

Post-baccalaureate internships are another pathway that can lead to a preliminary credential. These internships prepare teachers while they are employed. IHEs offer the largest share of internship programs, though these programs are also offered by local education agencies (i.e., districts). Internship programs often take 24 months to complete, as candidates take coursework while teaching. Interns teach on substandard credentials while completing their programs and typically receive little or no student teaching.

Figure 2 shows the number of preliminary credentials issued through three preparation pathways: the pre-service pathway, the IHE intern pathway (university intern pathway), and the district intern pathway. Although not all interns complete the requirements to earn a preliminary credential, some do become fully certified. This figure includes only those university and district interns who have earned a preliminary credential. The figure demonstrates that, over the past several years, California has issued a growing proportion of full credentials to teachers who began teaching on substandard credentials. Among those teachers receiving preliminary education specialist credentials,² those prepared in traditional pre-service programs declined from 1,557 (51 percent of all preliminary credentials) in 2012–13 to 854 (34 percent of the total) in 2017–18. The remaining proportion of preliminary credentials were issued to individuals who completed their preparation through a university or district internship program, which means that they began teaching without having completed their coursework and, in most cases, without having experienced student teaching.

² “Education specialist” is another term for special education teacher, since credentialed special education teachers obtain what is called an “education specialist” credential in California.

Figure 2. Special Education Preliminary Credentials Issued, by Preparation Pathway, 2012–13 to 2017–18



Sources: California Commission on Teacher Credentialing annual teacher supply reports, 2012–13 to 2017–18. Available at <https://www.ctc.ca.gov/commission/reports/all-reports> (accessed 10/11/2019).

While the number of pre-service preliminary credentials has been dropping, district demand has increased and remained significantly higher than the combined pool of new, fully credentialed teachers prepared in California, re-entrants, and out-of-state entrants. This gap was filled in 2017–18 by more than 2,300 teachers on emergency-style permits who were unprepared and not in formal training programs.

Factors Influencing the Decline in Teacher Candidates

A key question is whether the drop in new credentials is due to a shortage of candidates or a lack of capacity to train candidates in this field. Based on an analysis first published in our report for *Getting Down to Facts II*, we found that both teacher education program capacity and teacher qualification requirements may impact teacher preparation enrollments (Darling-Hammond et al., 2018).

Teacher education capacity. Based on the Teacher Education Program Capacity Survey administered by the CTC, California TPPs have more slots available for special education teacher candidates than they have applicants to those programs (see Table 2).

Only the much smaller sector of University of California programs has more applicants than slots available. Despite potentially greater capacity, California State University, University of California, and private TPPs accept between roughly 60 percent and 80 percent of special education applicants. In addition, not all students who are accepted choose to enroll. Even if every applicant were accepted and enrolled, the system still would be at just over half of its possible capacity.

Table 2. Estimated Teacher Education Slots, Applications, and Acceptances, 2017–18

	Slots	Applications	Accepted
California State University	1,747	904	703
Private Schools	884	590	341
University of California	50	80	46
Total	2,681	1,574	1,090

Source: Teacher Education Program Capacity Survey data provided by the California Commission on Teacher Credentialing through a special request.

Survey respondents were most likely to identify inadequate numbers of applicants and inadequate financial aid (56 and 55 percent of respondents, respectively) as reasons for low enrollments in their programs, regardless of subject area.

Even if there were enough capacity to accommodate the current number of applicants, program capacity has declined since a decade ago when California was enrolling many more prospective teachers. In special education, nearly 30 programs have been put on moratorium status or reduced in size since 2007, and four programs were eliminated outright (two in “Moderate to Severe Disabilities” and two in “Early Childhood Special Education”; see Table 3). This is a logical response to state budget cuts in higher education and the reduced number of applicants to teacher education, but it signals the need to rebuild capacity. Because these programs can be expensive to operate, universities may not be able to rebuild and maintain them without adequate recruitment incentives.

Table 3. Special Education Programs Eliminated or Placed on Moratorium Since 2007

	California State University	Private	University of California	Total
Mild to Moderate Disabilities	5	10	1	16
Moderate to Severe Disabilities	5	2	1	8
Early Childhood Special Education	2	3	--	5
Visual Impairments	--	--	--	--
Deaf and Hard of Hearing	--	--	--	--
Physical and Other Health Impairments	--	--	--	--
Language and Academic Development	--	--	--	--

Source: Data provided by the California Commission on Teacher Credentialing through a special request.

Limited enrollment resources. In our research for *Getting Down to Facts II*, we also learned that across teaching areas, the number of teacher education slots enumerated by California State University campuses are in part theoretical (Darling-Hammond et al., 2018). Although the programs might be able to grow to those levels, on an annual basis, the amount of funding allocated to teacher education slots within each university is often constrained by California State University practices that typically determine annual slots based on the size of enrollments in the previous year or two. Because campuses experienced low enrollment in response to the tight recession-era labor market, many no longer have sufficient enrollment funding to admit more candidates despite the current demand. In this sense, California State University teacher education programs are caught in a challenging position. Even as applications increase, a number of programs have had to turn away interested applicants because they did not have enrollment allocations sufficient to cover all of the students they would like to admit. This enrollment funding deficit may in turn dampen demand, because word gets out that campuses are not accepting candidates, even though K–12 schools are struggling to find teachers.

A disincentive to universities for increasing teacher education slots is that the cost of providing quality teacher preparation—which involves management of clinical placements and supervision—is larger than that of many liberal arts majors, so the system can admit more students at lower cost in other programs. To change this, some states provide a weighting for funds to clinical professional programs in their allocation systems for public universities and/or allocate funds directly to teacher education programs.

Notably, comparisons of low- versus high-shortage states reveal that low-shortage states have invested in greater higher education capacity to produce more special education teachers (Peyton et al., in press). In California, increased investments in higher education capacity could help institutions design and launch new programs and expand high-retention pathways into special education teaching, such as teacher residencies and other models that feature high-quality clinical experience, which are discussed in the policy considerations later in this report.

Qualifications requirements. In addition to questions about the availability of slots, more than one third of TPPs emphasized that a lack of *qualified* applicants is a major obstacle to boosting enrollments. In special education, despite apparent availability of slots, only 69 percent of applicants were accepted.

The CTC has extensive requirements for teacher education entry that may account, in substantial part, for these trends. To be eligible for student teaching or an internship, candidates must overcome at least two hurdles, both of which are often required by programs for admission:

1. The California Basic Educational Skills Test (CBEST), or a high enough score on certain other tests;
2. Subject-matter qualifications that may be met by completing a specified subject-matter program of study, but are typically met by passing the California Subject Examination for Teachers (CSET), since few universities offer the subject matter program of study. For education specialists, the usual path is the Multiple Subjects CSET.

Both sets of examinations have relatively high fail rates. Between 2012 and 2017, the cumulative pass rate was 84.1 percent, meaning about 16 percent of candidates failed the CBEST test even after retakes (see Table 4). During that same period, more than 30 percent of test takers failed on their first attempt. CBEST fail rates have worsened over time, with 88.4 percent of test takers passing after retakes in 2012–13 and just 76.2 percent passing with retakes in 2016–17.

Table 4. CBEST First-Time and Cumulative Passing Rates, 2012–2017

Testing Year	N Completed	First-Time Passing Rate		Cumulative Passing Rate	
		N Passed	% Passed	N Passed	% Passed
2012–17	163,669	112,377	68.7	137,670	84.1
2016–17	37,673	25,175	66.8	28,691	76.2
2015–16	36,942	25,056	67.8	31,045	84.0
2014–15	34,229	23,476	68.6	29,524	86.3
2013–14	29,130	20,555	70.6	25,703	88.2
2012–13	25,695	18,115	70.5	22,707	88.4

Source: California Commission on Teacher Credentialing (2018a). *Annual report on passing rates of Commission-approved examinations from 2012–13 to 2016–17*. Available at <https://www.ctc.ca.gov/docs/default-source/commission/reports/exam-passing-rate-fy-2012-13-to-2016-17.pdf> (accessed 6/1/2019).

Similarly, CSET failure rates are also high. The proportion of candidates failing the Multiple Subjects CSET exam even after retakes increased from 9 percent before 2014 to 19 percent in the period since the exam was revised in 2014 (see Table 5). High failure rates mean fewer candidates for TPPs, including candidates in special education programs.

Table 5. CSET First-Time and Cumulative Passing Rates

CSET Examination	Annual Passing Rate (2016–17)			Cumulative Passing Rate (2003–2017)		
	N Attempted	N Passed	% Passed	N Attempted	N Passed	% Passed
All Exams	17,573	12,021	68.4	374,375	302,384	80.8
Multiple Subjects (2003)				157,532	143,992	91.4
Multiple Subjects Updated (2014)	8,838	6,379	72.2	28,702	23,210	80.9

Source: California Commission on Teacher Credentialing (2018a). *Annual report on passing rates of Commission-approved examinations from 2012–13 to 2016–17*. Available at <https://www.ctc.ca.gov/docs/default-source/commission/reports/exam-passing-rate-fy-2012-13-to-2016-17.pdf> (accessed 6/1/2019).

The Critical Problem of Attrition

As the prior section shows, California schools have experienced persistent difficulties filling special education teacher vacancies, and the shortage in fully prepared special education teachers has troubling implications for the learning, well-being, and success of students with disabilities. Recruiting well-prepared teachers is only part of the challenge. Retaining those teachers and enabling them to be effective is equally important, especially since most of the mismatch between supply and demand is a result of teachers leaving their positions. In this section, we

discuss turnover and attrition³ of special education teachers in California, as well as the working conditions that affect both their tenure in the profession and their effectiveness. Indeed, the two are related, as both teacher effectiveness and teacher retention are strongly related to how efficacious teachers feel in their jobs (Darling-Hammond et al., 2002).

Attrition as a Key Driver of Teacher Demand

While teacher demand is driven by several factors, including growing student enrollment and pupil-teacher ratios, the lion's share of demand is driven by teacher attrition. In fact, in California, we estimate that attrition from the profession—which has grown to about 9 percent annually—accounts for about 88 percent of annual demand, and drives many of the shortages we see today, particularly in high-need schools (Carver-Thomas et al., in press; Darling-Hammond et al., 2018). For special education, national data show higher attrition rates for special educators than teachers in other areas (Sutcher et al., 2016). In California, principals report that teachers in special education are among the most difficult to retain (Darling-Hammond et al., 2018).

While it is not possible to calculate turnover rates for California's special education teachers in traditional schools from the CDE data file available to us, we are able to calculate turnover for teachers working in special education schools: Between the 2015–16 and 2016–17 school years, 13.4 percent of teachers in special education schools left the profession or state and another 7.3 percent moved between schools within California. Combined, these percentages indicate that teachers in special education schools turn over at a rate that exceeds rates for any other subject (Darling-Hammond et al., 2018).

Our focus group participants described the high rates of churn in special education, and all agreed that high turnover negatively impacts students:

The kids have to start fresh with a new person every year. [It can be] a cycle. For three years in the middle school, you could have a new teacher in a class every year or a new psychologist or a new speech [therapist] or whoever it may be, because the burnout's everywhere.

³ "Turnover" includes teachers who leave their positions for a variety of reasons, including to leave the profession or to move between districts or schools. Depending on the level of the analysis, "attrition" refers to teachers who leave public school teaching in the United States or in California.

Factors Influencing Special Educator Attrition

Researchers project that over a quarter of California’s special education teachers who were teaching in 2014 will retire by 2024 (more than in any other subject area). Furthermore, this is a small share of the attrition we can anticipate: about two thirds of attrition across fields is pre-retirement, caused by teachers leaving the profession early or in mid-career (Fong et al., 2016; Sutchter et al., 2016).

In general, pre-retirement attrition from teaching careers is driven largely by teachers’ dissatisfaction with their positions or with the profession. Researchers have identified a number of workplace conditions associated with teacher attrition, including problems associated with instructional leadership, school culture, collegial relationships, time for collaboration and planning, teachers’ decision-making power, experiences with professional development, facilities, parental support or involvement, and resources (see Simon & Johnson, 2015 for a comprehensive review). Administrative support is especially central, along with other factors that are often a function of the administrator’s approach: school culture and collegial relationships, time for collaboration, and decision-making input (Sutchter et al., 2016).

Our review of the literature on special education teacher shortages and responses from our focus group indicate that special education teachers share many of the same concerns listed above, and that these challenges are compounded by additional issues specific to their profession. Especially pertinent to the retention of special education teachers in California are:

- The need for high-quality special education preparation programs, mentoring, and professional development;
- Improvements in working conditions, including reasonable caseloads and adequate supports to help teachers meet the needs of special education students and fulfill their nonteaching, compliance-driven responsibilities; and
- Financial supports that increase the adequacy of compensation and reduce higher education debt.

The Need for High-Quality Preparation and Professional Learning Opportunities

The Role of Professional Learning in Special Educator Retention

Access to high-quality preparation and professional learning opportunities can help curb attrition and ensure that special education teachers stay in the field. National research shows that teachers who are more comprehensively prepared feel more efficacious and leave teaching at less than half the rate of those who enter without preparation (Darling-Hammond et al., 2002; Ingersoll et al., 2012). Similarly, across content areas, California

teachers on substandard credentials or permits leave at about twice the rate of those who are fully prepared. For teachers in self-contained classrooms—which include special education classrooms—31 percent of teachers on substandard credentials or permits leave annually, compared to 15 percent of their counterparts who are fully credentialed in their field (Darling-Hammond et al., 2018).

A review of research on special educator attrition and retention shows that intensive preparation and professional learning experiences can help retain special educators, while inadequate training can lead to turnover (Billingsley & Bettini, 2019). For example, one study found that more time spent student teaching was related to a lower probability of attrition (Connelly & Graham, 2009).

In addition, special educators who plan to stay in the field rate their professional development more highly than those who plan to leave, and tend to have administrators who support their professional growth (Albrecht et al., 2009; Billingsley & Bettini, 2019; Cancio et al., 2013). In a qualitative study of teachers in the Southwest, special educators who stayed in their positions referenced the value of professional development opportunities—including behavior management, induction (with a focus on best teaching practices), and opportunities to participate in curriculum development—more often than those planning to leave (Gehrke & McCoy, 2007). Another study of special education teachers and administrators from the Midwest identified inadequate access to training or professional development as one of the top reasons that new special education teachers leave the field (Hagaman & Casey, 2018).

Among the various types of professional learning experiences, mentorship has been shown to improve teacher retention and—when delivered by teacher mentors who have special education knowledge—improve the instructional practice of novice special educators (Billingsley & Bettini, 2019; Cornelius et al., 2019). Several of our focus group participants spoke about the value of mentoring and induction for new and aspiring teachers. One described how her district tried to help new special education teachers, and referenced the need for mentors who have special education knowledge:

[Special education can be] alphabet soup. It's all like a whole foreign language when you're talking about special education, and it needs a lot of paperwork. There are a lot of things going on. [We] mitigate with induction programs like BTSA [Beginning Teacher Support and Assessment]. ... But sometimes our special education teachers don't have a mentor who is a special educator.

Like mentoring for early career teachers, ongoing professional learning can help ensure that all special education teachers not only stay in their positions, but also have the training they need to support students with diverse disabilities, including those with autism, developmental delays, learning disabilities, and other health impairments. To prepare teachers well, this training generally includes medical, psychological, and pedagogical knowledge grounded in an understanding of students' physical, social, emotional, cognitive, academic, and identity development, as well as an understanding of the challenges associated with different conditions. Special education teachers with more extensive pedagogical training and practice teaching are better prepared to use a variety of instructional methods and handle other key teaching duties, such as planning lessons, selecting curricular materials, using a range of teaching strategies, and assessing students (Boe et al., 2007; Nougaret et al., 2005; Sindelar et al., 2004). In addition, teacher preparation and experience in special education boost achievement gains in reading and math for students with disabilities (Feng & Sass, 2010).

In contrast, teachers who are underprepared may contribute to classroom conditions and use behavior management methods that negatively impact student learning and well-being (Alvarez, 2007; Ryan et al., 2007). For example, one study found that teachers in Virginia who had not received classroom management training for students with emotional disturbance were more likely to react to student aggression with anger, stress, and helplessness (Alvarez, 2007). However, adequate training can help reduce the use of potentially harmful disciplinary practices, as shown by a study of staff in a Minnesota special day school, where crisis intervention training reduced the use of seclusion procedures by 40 percent and physical restraints by nearly 20 percent (Ryan et al., 2007).

Special education students may be particularly at risk for overly harsh disciplinary actions that result in exclusion from instruction. In an analysis of national data on student discipline, the United States Government Accountability Office (GAO) found a positive association between the percentage of inexperienced teachers and the probability that students would receive discipline of various types, including suspension, expulsion, referral to law enforcement, and corporal punishment (Nowicki, 2018). The GAO also found that students with disabilities are overrepresented among those who are suspended or expelled, and that use of these disciplinary practices is even more common when students with disabilities are students of color (Nowicki, 2018). Without adequate training, underprepared teachers may lack the tools needed to address behavioral issues without resorting to the use of potentially harmful disciplinary measures, including suspension and expulsion (California's Statewide Taskforce on Special Education, 2015).

Special education teacher leaders who participated in our focus group discussed the impacts of inadequate preparation. As one teacher explained, lack of expertise is a

problem among general and special education teachers, as well as paraprofessionals, and it negatively affects student learning:

We're seeing kids placed into a class, without [special education support] and they're not really learning. And it's very frustrating for us—the general education teacher, and the special education teacher, and the aides who don't have the backgrounds to help these kids.

Another teacher explained that an inability to effectively manage student behavior can lead to students being placed in more restricted environments, regardless of student ability:

When those students aren't getting the support that they need ... they are often not put into the least restrictive environment, just because their behavior [can't] be managed, [regardless of] what the student's educational and academic capabilities are.

California's critical need for high-quality preparation and professional development is essential for the success of the state's current efforts to advance inclusive practices, social-emotional learning, positive behavioral supports, and the use of a multitiered system of supports, a "whole-school, data-driven, prevention-based framework for improving learning outcomes for every student through a layered continuum ... of evidence-based practices" (California's Statewide Taskforce on Special Education, 2015, p. 21).

Special Educator Preparation in California, Compared to Other States

High-quality preparation and professional development are particularly needed as California recovers from over 20 years of reduced teacher preparation requirements for education specialists (i.e., special education teachers). Compared to other states, the quality of preparation provided to education specialists in California is much less intensive. The norm in many states, especially in the Northeast and Midwest, has historically been that teachers earn a general education teaching credential, often in a four-year undergraduate teacher education program, and then acquire a two-year master's degree in special education. Both of these experiences include extensive coursework and student teaching.

By contrast, in California, even teachers who have completed the requirements for a special education credential often have significantly less training than their counterparts in other states. In 1996, the CTC removed the requirement for education specialists to first secure a general education credential, in the hopes that truncated preparation requirements would alleviate the special education teacher shortage that the state was experiencing at the time. Following that decision, education specialists could be trained

in a nine-month credential program, often an internship where the candidate is a full-time teacher of record who receives some mentoring, but without student teaching under the wing of a senior teacher.⁴ As a result, many of the teachers working on education specialist credentials today entered the field without having seen an expert teacher teach or having had general education training (California's Statewide Taskforce on Special Education, 2015). New standards for TPPs that issue the education specialist credential aim to address some of these long-standing issues (discussed further below); however, this will not help current special education teachers who were trained under the previous standards.

In our focus group of California special education teachers, pre-service training and experiences varied a great deal. However, participants agreed that quality of preparation was important and that, therefore, programs should include information specific to special education student needs, as well as in-classroom experiences in special education. For example, special educators said:

When I went through my credential program, [the information] really wasn't there specifically addressing the needs of special ed students that I would eventually have in my class.

In California [special educator preparation] ... you're not getting into a classroom. ... I had one class where I did 15 hours of observation; one class had 30. It's not enough. I think [pre-service special education teachers] need to be in the classroom more.

Inadequate background in special education among general educators is also of concern. Since passage of the Ryan Act in California in 1970, most TPPs have been nine-month post-baccalaureate credential programs that offer much less time for coursework or clinical experience. These programs have often failed to include much training for general educators to support students with disabilities. This presents a critical challenge as the state seeks to support more inclusive environments and practices for students with disabilities, and as districts work to comply with the federal IDEA requirement that students with disabilities receive an education in the least restrictive environment possible, which for many means placement in general education settings alongside their peers who do not have identified disabilities (California's Statewide Taskforce on Special Education, 2015). In California, over 70 percent of students with disabilities spend at least some of their time

⁴ In California, clinical practice can mean supervised early field experiences (e.g., observations of veteran teachers) or student teaching, in which candidates teach students in a veteran teacher's classroom with supervision and support. Candidates in pre-service pathways are required to complete student teaching; in contrast, interns are only required to complete "supervised fieldwork" that involves some mentoring while they are serving as teachers of record, but often does not include student teaching (California Commission on Teacher Credentialing, 2017b).

in mainstream classrooms (Petek, 2019). Without training in special education practice and requirements, general educators may lack the skills needed to collaborate with their special education colleagues to support the learning and success of the students with disabilities in their classrooms.

Our focus group described the lack of special education expertise among their general education colleagues as a major impediment to inclusion for students with disabilities:

[We need] the awareness of the general education community of what special education means. It's not an intervention. It's not a babysitting service for your troubled kids. These are students who are entitled to go to school and learn and feel like a part of the community instead of, like, an us versus them. It really needs to have the general education support to be inclusive. And I don't know how the heck that's going to happen.

Between 2016 and 2018, the CTC adopted new standards for general and special education teachers in the form of Teacher Performance Expectations, shaping licensing and accreditation that include a much more extensive common foundation of knowledge about development, learning, and teaching of both general and special education students (California Commission on Teacher Credentialing, 2016a, 2019b). The new standards include additional depth of knowledge expected for education specialists and also highlight the need for clinical experience early in the program (California Commission on Teacher Credentialing, 2019b; Fensterwald, 2017).

Implementation of these new standards is currently underway; however, these decisions will not benefit current special and general education teachers who received or will receive preparation prior to implementation of these changes. For these teachers, additional professional development opportunities are needed. Ongoing professional learning also benefits all staff who must learn to collaborate and communicate well to teach special education students, including in general education settings.

The Need for Improved Working Conditions

Achieving Reasonable Caseloads

Nationally, special education teachers highlight large, high-maintenance caseloads as a key cause of significant stress in their day-to-day routines (Fowler et al., 2019; Haganan & Casey, 2018; McLeskey et al., 2004). Research also finds that larger caseloads and instructional group sizes negatively impact student math and reading achievement, student behaviors, and teacher attrition (Russ et al., 2001).

Caseload, which is distinct from class size, refers to all the students for whom a special education teacher has responsibility. For example, a mainstreamed co-teaching classroom could have a total class size of 30 that includes 15 general education students and a caseload of 15 special education students. In addition to that period of co-teaching, the education specialist might also be responsible for overseeing services delivered to other students (e.g., speech therapy); these students may also be part of the teacher's caseload.

California statutes do little to regulate caseload sizes, setting limits only for special education resource specialists and language, hearing, and speech specialists. These specialists typically are not students' classroom teachers and, instead, provide support services in a "push-in" or "pull-out" setting. Although state law limits caseloads for special education resource specialists to 28 students, overages can occur, since caseloads can increase up to 32 students with approval of a state waiver (California Code of Regulations, n.d.; California Education Code, n.d.-a).⁵

In addition, special education teachers teach in other settings, including special day classes, mainstream or inclusion classes, and special schools, among others. Although caseloads for these settings can be established at the local level, California statutes do not set comprehensive caseload limits, nor do they mandate that local districts do so for teachers of elementary and secondary students. Reasonable caseload caps for special education teachers could help alleviate issues relating to overwhelming workload, provide special education teachers with the time needed to comply with federal and state requirements (including paperwork), and allow teachers to provide students with the level of support and services they need.

Unlike California, many states do regulate caseload size for each type of special education setting they provide, and their limits can be considerably smaller. New York, for example, limits the caseload for a resource room teacher—similar to a resource specialist in California—to no more than 20 students, or 25 students for Grades 7 and above (New York State Education Department, 2016). Further, the law requires these teachers to work with only up to five students at a time. The state also regulates student-teacher ratios for self-contained special classes, which can range from 15:1 to as small as 6:1 depending on the nature of students' needs (New York State Education Department, 2013). Integrated co-teaching classrooms (an inclusion setting) can have no more than 12 students with disabilities.

⁵ Language, hearing, and speech specialists in a given special education local plan area (SELPA) can have an average caseload of 55 (California Education Code, n.d.-b).

Other state laws, such as in Illinois and New Mexico, set student-teacher ratio caps based on the nature of students' needs. Illinois sets a student-teacher cap of, at most, 15:1 in special education classes in which all the students receive services for 20 percent of the school day or less (Illinois State Board of Education, n.d.). The ratio can be as small as 8:1 when students require more special education services. New Mexico sets a student-teacher ratio of 24:1 for teachers serving students with "moderate" needs, or who receive services less than half the day. The ratio can be as small as 8:1 when teachers serve students who require services throughout the day (New Mexico Public Education Department, n.d.).

In Virginia, caseloads vary for students with different kinds of disabilities (e.g., autism, hearing impairment, learning disability, etc.) at different levels of severity. The level of severity is based on the amount of instructional time that students are provided special education services. When teachers have a caseload of students with different needs, the number of "points" is calculated up to a maximum of 20, with some students with greater needs being counted as 2 or 3 points (Virginia Administrative Code, n.d.).

Our California focus group participants talked a great deal about the challenge of having heavy caseloads as well as large class sizes, which are especially burdensome because of the multifaceted aspects of the job. One teacher explained:

The case manager part ... [is] a whole different job on top of teaching that I don't think people who are not in special education can understand. It's a lot of work, because it's not just writing IEPs [Individualized Education Programs]. We have to communicate with parents more often, and we have to communicate with [the] speech pathologist, all their extra services. All of that takes time that we don't even have within our regular workday. We do a lot of that outside of the workday. And having to communicate with just tons and tons of people all the time ... is a lot of work.

Another explained:

A typical annual IEP is upwards of three hours of preparation. A triannual [review] is at least nine, sometimes a lot more. So, just the time that we are required on our own time, after school, weekends, in order to make sure that all of those are done [is extensive].

Providing Supports for Special Educators to Meet Compliance Requirements

In addition to teaching, special education teachers are tasked with understanding and complying with state and federal special education laws and regulations, as well as district policy. In an effort to maintain compliance with the law, special education

teachers spend large amounts of time engaged in nonteaching responsibilities, including completion of paperwork and managing an IEP for each of the students on their caseload. One review found that nonteaching responsibilities “are burdensome to teachers, interfere with instruction, and may contribute to attrition” (Billingsley & Bettini, 2019, p. 718).

A focus group participant described the challenge of meeting, and keeping up with, compliance requirements:

[Special education has] constant changes in law, district policies, and procedures—it’s never consistent. It’s really hard to keep up with. ... There are so many inconsistencies. ... It’s very dynamic. ... We’re dealing with legal stuff: Attendance is legal, physical education minutes are legal, and IEPs are legal. So we are working with legal binding information all the time and constantly educating other people on it. With all those changes, it’s really hard to keep straight what you’re supposed to do now as opposed to what you did last year or what you’re going to do next week.

A nationwide survey of special education teachers shows that access to adequate resources and the professional support needed to fulfill IEP requirements and goals are key areas of concern (Fowler et al., 2019). Many also report that administrators and their general education peers lack sufficient background in special education, particularly regarding laws (Fowler et al., 2019; O’Connor et al., 2016). Research shows that inadequate support from colleagues and administration is a critical issue facing special education teachers and impacts their decisions to remain in the field (Billingsley & Bettini, 2019; Hagaman & Casey, 2018). Collaborative workplaces are especially critical for special education teachers, who must interact with school and district administrators, special and general education teachers, paraprofessionals, and service providers to meet the needs of their students. Special educators who give high ratings for the support they receive from other professionals more frequently express an intent to stay in the field (Berry, 2012; Billingsley & Bettini, 2019).

Focus group participants made several comments about the importance of support from other school staff. As one participant noted of the need for administrative support:

[We need] administrators who have some basic training in special education needs and services and in the requirements, because that’s what I hear too from my [fellow special education teachers]. My administrators don’t know special education from Adam, and so they don’t know how to help me service my students.

The Need for Financial Supports

Adequate Compensation

In the United States, teachers earn about 30 percent less than other college graduates (Organization for Economic Cooperation and Development, 2019). Analyses of national data suggest that, controlling for other factors, teachers in districts with higher salary schedules are significantly less likely to leave their schools than those in districts with lower salary schedules (Carver-Thomas & Darling-Hammond, 2017). In addition, national data show a link between compensation and special education teacher retention. An analysis of 2012–13 data from the federal Teacher Follow-Up Survey found that 16 percent of special education teachers who left teaching identified wanting or needing a higher salary as a reason for leaving (Carver-Thomas & Darling-Hammond, 2017).

While California's average teacher salaries are relatively high in relation to those in many other states, the cost of living in many parts of California is much higher than that of virtually all other states. In a high-cost state such as California, inadequate compensation can be an acute challenge for teachers, particularly those living in more expensive coastal areas and at the bottom of the pay scale. A recent analysis of teacher salaries and rent prices throughout California reveals that in 40 percent of the 680 districts that reported salary data, first-year teachers did not earn enough to rent an affordable one-bedroom apartment (Lambert & Willis, 2019).

Focus group participants discussed the importance of adequate compensation:

I want to say unapologetically, I worked really hard. I graduated from a great university, I've been teaching in my district for eight years with a master's degree, and I just broke \$60,000. You want to talk about support? I need to make enough money to live in [my community]. And that is one of the things driving people out [of teaching].

Reduction of College Debt

Faced with the high costs of living in California, students interested in teaching may choose other, higher-paying career paths. Indeed, research suggests that high levels of college debt drive students away from lower-wage professions like teaching. A study of students at a highly selective undergraduate institution found that incurring debt increased the odds that students chose "substantially higher-salary jobs" and "reduce[d] the probability that students [chose] low-paid 'public interest' jobs." The influence of debt on job choice was "most notable on the propensity to work in the education industry"

(Rothstein & Rouse, 2011, p. 150). In other words, top-performing students were more likely to pursue a career in education when they did not have a large debt. Other research has found that students of color and students from low-income households carry greater loan debt (Darling-Hammond, 2019) and perceive student loans as a greater burden than other students with similar student debt earning similar salaries (Baum & O'Malley, 2003).

The relevance of this problem to the special education teacher shortage emerged during our focus group, when participants suggested that reducing cost and debt would help recruit and retain new special education teachers:

The student loans that these students have, that is just [the biggest challenge]. We live in California, and all these cities are so expensive—San Diego, San Francisco. It's ridiculous ... and then there's long commutes, and it's just that financial burden.

[We need] some sort of incentive tied to the debt forgiveness. ... If you work in a more challenging environment [like special education], the greater the forgiveness rate [should be].

The loan forgiveness and service scholarship programs that our focus group discussed underwrite preparation in exchange for a number of years of service in the profession, often in particular high-need locations and subject areas. Service scholarships and forgivable loan programs have proven to be highly effective in recruiting individuals into teaching and directing them to the neediest fields and locations (Podolsky & Kini, 2016). In addition, loan forgiveness and service scholarship programs have the potential to attract more teachers of color into special education. A wide body of research demonstrates the positive benefits a racially diverse teacher workforce provides students in general, and students of color in particular (Carver-Thomas, 2018). Loan forgiveness and service scholarship programs can help to make teaching an affordable career choice for teaching candidates of color.

In California, the now-defunct Assumption Program of Loans for Education loan forgiveness program and Governor's Teaching Fellowship provided teacher candidates between \$11,000 and \$20,000 in exchange for a commitment to teach for at least four years in high-need schools and subjects. Beneficiaries of those programs were more likely to teach in low-performing schools and had higher retention rates than the state average (Podolsky & Kini, 2016; Steele et al., 2010). In two separate California surveys, both district leaders and respondents to the Teacher Education Program Capacity Survey identified financial aid as the number one strategy for increasing teacher preparation enrollments (Darling-Hammond et al., 2018; Sutchter et al., 2018).

Findings and Policy Considerations

In summary, our findings indicate that:

- Increases in demand for special education teachers coupled with declines in teacher preparation enrollments and ongoing high attrition have contributed to the severe shortage of special education teachers in California.
- About two of three teachers entering special education in the state hold a substandard permit or credential, which are issued to candidates who have not completed the testing, coursework, and clinical experience the CTC requires for preliminary credentials. Filling teacher shortages with underqualified individuals means that both students and teachers are struggling.
- Declines in teacher preparation enrollment in special education have not yet been reversed. Administrators in TPPs note that lack of financial aid can be a barrier to enrollment for all teachers, including those in special education.
- At 9 percent annually, teacher attrition is higher in California than the national average, and special education teachers leave at an even higher rate, especially if they are underprepared.
- Teacher attrition for special education teachers is associated with inadequate preparation and professional development; challenging working conditions—including large caseloads and overwhelming compliance obligations; and inadequate compensation to live in high-priced communities and handle student debt loads.

In recent years, California has begun to address teacher shortages across subject areas, including special education. In 2016 and 2017, the state legislature invested \$45 million to help classified staff become certified to teach; \$10 million to start new undergraduate programs for teacher education; and \$5 million to launch a Center on Teaching Careers, a recruitment and resource center for teaching candidates and those considering a teaching career. In addition, federal funding under Title II of the Every Student Succeeds Act was allocated in 2017 to address shortages through the CalEd competitive grant program. The program offered about \$9 million in grants, ranging from \$100,000 to \$1.25 million, for local education agencies to focus on the development of school leaders or teacher recruitment and development, especially in shortage subjects. The state also invested an additional \$5 million in the Bilingual Teacher Professional Development Program to fund initiatives that increase the number of teachers with bilingual authorizations, a critical shortage area.

Over the past two years, California has enacted its largest investments. In 2018, the legislature appropriated \$75 million to support teacher residencies to recruit and train teachers (with \$50 million targeted to special education residencies), and \$50

million for “local solutions” that address special education teacher shortages, which could include everything from loan repayment to mentoring, retention bonuses, and redesign of workload, among other strategies. In 2019, California invested nearly \$90 million to establish the Golden State Teacher Grant Program, which will provide one-time grants of \$20,000 to students who are enrolled in TPPs and who commit to working in a high-need field, like special education, at a priority school for four years after receiving their credentials. In addition, in 2019 the state created two statewide programs to provide professional development opportunities to the state’s teachers and educational leaders: The state allocated \$37.1 million to the Educator Workforce Investment Grant (EWIG) program, of which \$5 million is reserved for special education–related professional development for teachers and paraprofessionals; and \$13.8 million in ongoing federal Title II funds to the 21st Century California School Leadership Academy, which will offer an array of professional development opportunities, including training mentors for novice school leaders, training coaches to support leaders in high-need settings, and training for school leaders (including teachers) involved in school improvement efforts.

The research we have reviewed suggests that these efforts should ultimately help the state make progress in addressing the special education teacher shortage. However, aside from the 21st Century California School Leadership Academy, all of the funds described above were appropriated on a one-time basis in the state budget. Given the particular severity of the shortage and the unique, complex set of challenges that special educators face, California will likely need to work on special education teacher recruitment and retention over a substantial period of time to resolve the shortage and prevent it from resurfacing.

Given that much of the teacher shortfall appears to be the result of steep declines in the production of new teachers as demand has increased, a key policy strategy may be the expansion of high-retention pathways to teaching that will both recruit and retain teachers. In addition, policy solutions that help address the challenges that current special education teachers are facing—particularly the need for high-quality preparation and professional learning, improved working conditions, and increased compensation—can help reduce attrition. Research suggests the following evidence-based approaches:

1. **Strengthen the pipeline into special education teaching with recruitment incentives for high-retention pathways.** High-retention pathways into teaching—such as teacher residencies and grow-your-own programs that move paraprofessionals into teaching—have proven successful for recruiting and retaining racially and linguistically diverse individuals in teaching (Guha et al., 2016; Podolsky et al., 2016). Residencies enable candidates to get strong training under the wing of expert teachers in a district that will ultimately employ

them, while earning a credential through a closely connected university partner. Paraprofessional pathways support individuals who are rooted in communities and have experience working with students, often in special education.

The state has begun to mitigate the financial costs of becoming a special education teacher through investments in the Golden State Teacher Grant Program and teacher residencies. These will also reduce candidate debt and thereby effectively increase their compensation. California has also previously benefitted from programs that could be considered for reinstatement, such as the Classified School Employee Teacher Credentialing Program and the Paraprofessional Teacher Training Program. The latter trained more than 2,200 graduates, two thirds of whom were people of color and bilingual. As of its 13th year of operation, 92 percent remained California school employees (California Commission on Teacher Credentialing, 2015a; Podolsky et al., 2016).

2. **Improve the quality of and access to preparation.** As noted in this report, better prepared teachers are both more effective and more likely to stay in teaching (Billingsley & Bettini, 2019; Boe et al., 2007; Connelly & Graham, 2009; Cornelius et al., 2019; Ingersoll et al., 2012; Nougaret et al., 2005; Sindelar et al., 2004). The CTC is currently overhauling training rules for both general and special education teachers to ensure a stronger base of knowledge and skills for teaching students with disabilities. As California updates licensing expectations for special education teachers and works to increase the number of newly credentialed teachers, it will be important to build and expand the capacity of teacher education programs, as well as support new program designs that provide more intensive preparation and student teaching and ensure strong mentoring, so that new teachers have the greatest possible chance for success.
3. **Expand and strengthen professional development.** Studies show that intensive professional learning experiences are highly valued by special education teachers and associated with increased teacher efficacy and lower probability of attrition (Billingsley & Bettini, 2019; Cornelius et al., 2019; Gehrke & McCoy, 2007). The state can support the retention of current special education teachers by providing meaningful professional learning opportunities that help them meet the needs of students with disabilities, such as job-embedded coaching, mentoring, and ongoing support. The recently launched EWIG program can help improve retention by supporting these types of opportunities for special education teachers. Such funds could also help provide professional development to teacher mentors, to ensure that they have the necessary special education background to support novice special educators.

In addition, all beginning California teachers must complete an induction program to earn their clear credential, and when done well—with one-on-one mentoring by a teacher in the same field—induction can help retain teachers while improving their effectiveness (Podolsky et al., 2016). Currently, however, some districts do not offer induction services since they are not required to do so, and others charge novice teachers for induction services. These are areas for attention in the effort to retain special educators.

4. **Improve working conditions for special education teachers.** Poor working conditions, including large caseloads and overwhelming nonteaching responsibilities, may contribute to the attrition of special education teachers (Billingsley & Bettini, 2019; Russ et al., 2001). California’s caseload caps are currently very high and are frequently waived, so that resource specialists, for example, can be responsible for up to 32 students, far above the levels of many other states. The state and districts can consider how to revise caseload expectations and provide additional administrative supports in order to help alleviate overwhelming workloads for special educators and ensure that they have the time needed to comply with federal and state requirements and to work effectively with students with disabilities.

The state and districts can also improve working conditions by supporting special education training for general education teachers and school and district leaders in order to improve their understanding of the needs of students with disabilities and their capacity to support these students and their special educator colleagues. This is particularly critical for ensuring that inclusion of students with disabilities in general education classrooms is done well and leads to improved student outcomes. One resource for this training is the 21st Century California School Leadership Academy, which is intended to provide administrators and other school leaders with professional learning opportunities that should include special education.

5. **Increased compensation.** National data suggest that adequate compensation can help districts retain special education teachers (Carver-Thomas & Darling-Hammond, 2017). In 2019, California increased state funding for special education and signaled an expectation for additional increases in 2020, which are reflected in the governor’s January 2020 budget. These investments can help relieve the fiscal pressure felt by districts, putting them in a better position to increase support for their special education teachers through higher salaries that recognize the costs of living, as well as their training and workload; strategies like college loan repayment tied to retention; and other supports such as housing subsidies.

Conclusion

A common objection to teacher shortage interventions is the belief that the teacher labor market will adjust on its own to meet demand. It is true that teacher supply is dynamic and adjusts as economic and social conditions change. In response to increased demand for special education teachers, districts may seek to improve salaries and working conditions where they have the resources to do so. However, districts cannot produce a pipeline of teachers where none exists, nor can they by themselves improve the quality of training new teachers receive. Because the shortage emerges from a complex set of challenges, it will require comprehensive, proactive policy solutions that support not only teachers, but the kinds of programs that prepare them and the kinds of workplaces in which they can succeed in meeting the needs of the state's most vulnerable students.

There are thousands of students with disabilities today in classrooms with teachers who are wholly unprepared, and the possibility of more teachers tomorrow does nothing to help them. Even if teacher supply eventually adjusts to meet growing demand, that change could be years into the future, with a cost borne by students. While California has made initial investments to increase the supply of well-prepared special education teachers, these investments will take time to yield results. More action and sustained investments are needed to ensure a robust, well-prepared workforce of special education teachers now and into the future. Rather than filling more classrooms with underprepared teachers, California could invest in rapidly building the supply of qualified teachers to ensure that today's students with disabilities do not have to wait for the kinds of educational supports and instruction they need to be successful.

Appendix A: Methodology

This report used a mixed methods approach. We analyzed quantitative datasets related to teacher preparation and certification. We also drew on a focus group of special education teacher leaders in California. The focus group’s qualitative data provided insight into the quantitative results.

To examine California’s current special education teacher shortage, we analyzed the most recent publicly available credential data from the CTC. We conducted trend analyses to examine the numbers and percentages of different types of special education certifications issued over time. We also analyzed the degree of turnover and attrition of special education teachers from the profession.

In addition, we analyzed Teacher Education Program Capacity Survey data provided by the CTC. The CTC administered this survey in 2017 to all institutions approved by the CTC to sponsor teacher education (Darling-Hammond et al., 2018). Of the 88 California State University, University of California, and private institutions preparing teachers, 75 (85 percent) responded to the survey (see Table A1).

Table A1. Respondents to the Teacher Education Program Capacity Survey

	Sponsoring Teacher Preparation	Institutions Responding to the Survey	Percent of Institutions Responding
California State University	23	20	87
Private or Independent Colleges and Universities	47	38	81
University of California	8	8	100
Local Education Agencies	10	9	90

Source: Teacher Education Program Capacity Survey data provided by the California Commission on Teacher Credentialing through a special request.

The Teacher Education Program Capacity Survey asked institutions to identify challenges to enrolling teacher preparation candidates. In addition, the survey asked for estimates of the number of available slots, applications, and acceptances in each subject area. The way institutions interpreted the questions and reported these estimates varied and should be interpreted with some caution.

To complement the quantitative data analysis, we also conducted a focus group with nine special education teachers who had leadership roles in their districts (e.g., mentoring other special education teachers, supervising paraprofessionals, and serving as union representatives). These teachers represented nine different districts across California,

with three from suburban areas and six from urban areas. Four districts were in Southern California, three in Northern California, and two in central California. Their average experience in teaching was 15 years, with a range of 8 to 23 years. They taught in a variety of grade levels: one in preK, one in elementary, four in middle school, and two in high school, while one worked at the district level. Most taught multiple content areas (such as reading, math, and history) and taught students with diverse special education needs, including autism; mild, moderate, or severe disabilities; visual or speech impairments; and behavioral disorders.

The 90-minute focus group used a semi-structured protocol, designed on the basis of a review of the literature on special education teacher shortages. The topics discussed in the focus group included the challenges faced by special education teachers, both in their pre-service and in-service experiences; supports that helped teachers overcome these challenges; and considerations for policymakers interested in mitigating challenges and increasing special education teacher supports.

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