How Preparation Predicts Teaching Performance Assessment Results in California

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Executive Summary

Ensuring that teaching candidates are well prepared to enter the classroom is a critical mission for teacher preparation programs and state agencies that approve programs and set teacher licensure standards. Teaching performance assessments (TPAs) can be used to assess the readiness of potential teachers because they require candidates to provide evidence of their teaching knowledge and skills through classroom videos, lesson plans, student work, and analysis of teaching and learning. TPAs have been adopted in at least 16 states as a requirement of either teacher preparation program completion or initial licensure. California, the focus of this study, was one of the first states to adopt a TPA as a licensure requirement for beginning teachers. The state has since adopted three TPA models: the California Teaching Performing Assessment (CalTPA), the educative Teaching Performance Assessment (edTPA), and the Fresno Assessment of Student Teachers (FAST).

Unlike multiple-choice licensure exams measuring the basic skills or content knowledge of teaching candidates, TPAs are classroom-based assessments capturing direct evaluation of teaching skills. This evaluation process creates opportunities for candidates (and their preparation programs) to identify their strengths and weaknesses. TPAs typically occur when preservice candidates are in student teaching placements (referred to here as clinical practice) or, for those participating in in-service preparation like internships, in their own classrooms. Multiple studies have found that TPA scores predict effectiveness once candidates enter the classroom as licensed teachers, and proponents argue that TPAs serve as a valuable professional standard set to ensure a teaching candidate is ready to enter the classroom.

On the other hand, critics have questioned whether a TPA requirement, along with other tests, serves as an unnecessary gatekeeper to the profession and whether the fees and time investment required by a TPA can be a cumbersome barrier for potential teachers, particularly teaching candidates of color and candidates with fewer financial resources. While TPA passing rates among California teaching candidates were quite high prior to the COVID-19 pandemic, variability in performance on TPAs has increased in California as the pandemic has rocked every aspect of the education system, including the training of teachers.

Focusing on the 2021–22 and 2022–23 academic years, this study explored whether certain preparation experiences predicted TPA success. Understanding these relationships can inform programmatic and policy decisions about how to support teaching candidates in entering the workforce with strong preparation and minimal barriers. Using data provided by the California Commission on Teacher Credentialing, this analysis focused on 18,455 California teaching candidates who took either the CalTPA or edTPA—the two widely available TPAs used across California teacher preparation programs—between September 1, 2021, and August 31, 2023.

Key Findings

- **Passing rates varied considerably across programs.** Preparation programs differ in how they structure clinical practice and support candidates through a TPA. Across the 263 preparation programs included in this analysis, nearly two thirds (63% of those programs) had more than 90% of their tested candidates pass a TPA and 23% had all of their candidates pass a TPA. In contrast, 35 programs (13%) had passing rates under 80%, including 14 programs with pass rates below

67%. Data available for a subset of completers suggest that racial disparities in pass rates appear to vary with overall program performance. While there were disparities in pass rates by candidate race and ethnicity among the low-performing programs, among programs with passing rates above 90%, there were no statistically significant differences in passing rates by race and ethnicity.

- **Passing rates also varied by credential field.** Single subject (i.e., secondary) and educational specialist (i.e., special education) programs had higher passing rates, on average, than multiple subject (i.e., elementary) programs. Notably, elementary candidates must document their teaching skills across two subjects (literacy and math), and each assessment has added elements for these candidates. This added complexity, along with pandemic-era challenges with clinical practice in elementary programs, could partially explain these differences.

- **Preservice candidates were more likely than intern candidates to be successful on a TPA.** As of 2021–22, three quarters of California's preparation program completers were from "traditional" preservice programs in which preparation and clinical practice (i.e., student teaching or residency) occurs before teaching candidates become a teacher of record. Over the past 2 years, 77% of the preservice candidates who took the CalTPA or edTPA passed on their first try, and 92% of these candidates passed across all of their TPA attempts. Among candidates in internship programs who served as teachers of record while completing preparation, 67% passed a TPA on their first try and 88% passed across all attempts. Candidates known to be in residency programs had higher TPA pass rates than those in other pathways.

- **Two thirds of preparation completers reported being well supported by their program to take a TPA, and program-level ratings of support were related to the likelihood of passing.** Of 14,709 elementary and secondary program completers who responded to program completer surveys administered by the California Commission on Teacher Credentialing, 66% reported that their programs prepared them well or very well for a TPA, 23% felt adequately prepared, and 11% reported being not at all or poorly prepared. These survey responses were averaged to create program-level ratings on TPA support. The odds of passing a TPA across all attempts were 1.7 times higher for candidates from programs with the highest rating on TPA support compared to candidates from the lowest-rated programs.

- **Elementary and special education candidates from programs where completers reported more opportunities to learn about teaching literacy and math were more likely to be successful on a TPA.** The program completer survey asks completers from elementary and special education preparation programs about their opportunities to learn how to teach specific aspects of literacy and math (e.g., learn ways to teach decoding skills, adapt math lessons for students with diverse needs). Program-level ratings on preparation in literacy and math—created from these survey responses—were associated with higher passing rates and higher TPA scores. For example, the odds of passing across all attempts were nearly 2 times higher for candidates from the highest-rated programs on preparation in literacy compared to candidates from the lowest-rated programs.

- **Preservice candidates from programs in which completers report sufficient clinical support were more likely to be successful on a TPA.** The program completer survey asked completers to report on the quantity of clinical support offered by program faculty (i.e., communication, observations,

and feedback about their teaching). For preservice candidates, program-level ratings capturing the percent of completers who received clinical feedback more than 5 times were predictive of TPA pass rates across all credential areas. Based on these program-level ratings, the odds of passing a TPA across all attempts were more than 2 times higher for candidates from the programs in which almost all completers reported sufficient clinical feedback, compared to candidates from the programs in which a lower percentage of completers reported such support. Program-level ratings on clinical support were not predictive of internship candidates' success on the TPA.

These differences in TPA success across programs and preparation experiences underscore the importance of ensuring that candidates are getting sufficient support to practice their teaching and then document those skills on a TPA. The California Commission on Teacher Credentialing is particularly well positioned to provide additional support for programs with the lowest TPA passing rates through the accreditation process, especially to ensure that these programs are upholding the program standard related to TPA implementation. TPA data, along with the program completer survey data analyzed here, can also help support continuous improvement among programs. Indeed, many California programs already use these data to target support for individual candidates and make programmatic decisions and adjustments. However, some programs may need better support or systems to be able to learn from their TPA results. Creating more resources and opportunities for programmatic learning and improvement around teaching performance assessments has the potential to strengthen preparation statewide and increase the readiness of the state's teaching candidates as they enter the classroom.

Introduction

Ensuring that teaching candidates are well prepared to enter the classroom is a critical mission for both individual teacher preparation programs (TPPs) and the state agencies that approve programs and set teacher licensure standards. It can be difficult to decide what qualifies as effective preparation, and states have been using different standardized assessments to measure the readiness of teaching candidates for over 50 years.[1] Most of these assessments have focused on multiple-choice tests of basic skills in reading, writing, and math; content knowledge in specific fields; or pedagogical knowledge about learning and teaching.[2] These measures, however, do not capture candidates' ability to teach in a classroom setting.

Teaching performance assessments (TPAs) offer an alternative approach because they require candidates to provide direct evidence of their teaching knowledge and skills. Many different types of TPAs have been developed across the United States, beginning with the portfolio assessment launched by the National Board for Professional Teaching Standards in the early 1990s to certify accomplished teaching.[3] Since then, TPAs have been adapted for beginning teachers, and, as of 2021, at least 16 states had adopted a TPA as a requirement of either teacher education completion or initial licensure.[4]

While distinct in some regards, TPAs tend to share certain key features that differentiate them from other state-mandated licensure exams or locally administered assessments. In contrast to assessments created by individual programs, TPAs use common tasks and criteria for evaluation that are tied to teaching standards. Unlike multiple-choice licensure exams, TPAs require observations of instruction in actual classrooms (usually submitted as videos) along with other artifacts (e.g., lesson plans, student work, candidate reflection) that capture decisions about teaching practice. This classroom-based assessment allows for more direct evaluation of teaching ability, and the evaluation process creates opportunities for candidates to identify their strengths and weaknesses.[5] This form of assessment can also provide timely information for preparation programs about the needs of individual candidates and can support continuous improvement efforts when looking at scores across candidates.[6] TPAs typically occur during clinical practice (i.e., student teaching or residency) for preservice candidates or, for students participating in in-service preparation programs like internships, in their own classrooms.

California, the focus of this study, was one of the first states to adopt a TPA as a licensure requirement for beginning teachers.[7] In 1998, the California legislature passed Senate Bill 2042 requiring the use of a TPA to determine whether general education candidates should be recommended for their preliminary teaching credential, a requirement that became consequential for candidates in 2008.[8] The state has since adopted three TPA models—the California Teaching Performing Assessment (CalTPA), the educative Teaching Performance Assessment (edTPA), and the Fresno Assessment of Student Teachers (FAST)—as meeting the requirements of the legislation for valid, embedded assessments that evaluate teacher candidates according to the state's teaching standards. In recent years, California has added a TPA for special education teaching candidates.

A growing body of evidence has found that TPA scores predict teaching effectiveness once candidates become teachers of record. In addition to the substantial body of evidence linking National Board Certification to teacher effectiveness,[9] early evidence from the Performance Assessment for California Teachers, a precursor of the edTPA, indicated that these scores were predictive of student achievement

gains in reading and math.[10] More recent analyses of edTPA scores in North Carolina and the state of Washington found that the scores were predictive of later teaching performance, as measured by student achievement growth in certain subject areas and classroom observation ratings.[11] An analysis of the Massachusetts teaching performance assessment found that it significantly predicted candidates' in-service performance evaluations.[12] As a result of these findings and experiences with TPAs, proponents argue that TPAs serve as a valuable professional standard set to ensure a teaching candidate is ready to enter the classroom.[13]

As the COVID-19 pandemic has rocked every aspect of the education system, including the training of teachers, and as an increasing number of teaching candidates have entered the profession through internships or emergency-style permits, the variability in performance on TPAs has increased in California. Critics have questioned whether a TPA requirement, along with other tests, is an unnecessary gatekeeper to the profession and whether the fees and time investment required by a TPA can be a cumbersome barrier for potential teachers, including teaching candidates of color and candidates with fewer financial resources.[14]

In 2019–20 and 2020–21, during the height of the pandemic, overall average TPA passing rates dipped statewide, especially among multiple subject (i.e., elementary) candidates, and a growing number of programs posted lower passing rates.[15] During this time, the CTC also allowed candidates to enter the field on a pandemic-related deferral that allowed them to complete tests while teaching. Since then, passing rates have improved. In 2021–22 and 2022–23, nearly two thirds of the 263 California teacher preparation programs studied in this report had more than 90% of their candidates pass a TPA, and nearly one quarter of programs had pass rates of 100%. However, other programs had considerably more candidates who struggled to pass a TPA, including 14 programs (about 5%) with pass rates below 67%. This study examined what preparation factors are associated with TPA success to inform programmatic and policy decisions about how to support teaching candidates in entering the workforce with strong preparation and minimal barriers.

California's Use of Teaching Performance Assessments

Passed in 1998, Senate Bill 2042 required the use of a TPA to assess whether teaching candidates preparing for their multiple subject (i.e., elementary) and single subject (i.e., secondary) credentials should be recommended for their preliminary teaching credential. TPAs were developed and piloted in partnership with the TPPs over several years, and the requirement became consequential for candidates in 2008, a decade later. More recently, the state has added a TPA requirement for the education specialist (i.e., special education) credential.[16] California-based TPPs, along with the California Commission on Teacher Credentialing (CTC), the state agency that approves TPPs and issues teaching credentials, have developed multiple TPA models. The CTC, working with teacher educators and the Educational Testing Service, developed the California Teaching Performance Assessment.[17] First administered in 2000, the CalTPA has been updated multiple times since its original development, and there were 19 different subject-specific assessments available to candidates across the state as of 2023.[18]

California's TPPs were also given the option to develop their own TPAs following design standards and criteria set by the CTC.[19] In 2002, a consortium of California TPPs began developing the Performance Assessment for California Teachers (PACT), an integrated set of subject-specific assessments that could

serve as an alternative to the CalTPA.[20] Approved by the CTC in 2007, PACT was used by California-based TPPs through 2018 and served as the foundation for the educative Teaching Performance Assessment (edTPA), the first national TPA. Developed by Stanford University's Center for Assessment, Learning, and Equity, edTPA rolled out nationally in 2013.[21] California State University, Fresno (Fresno State) also developed its own TPA—the Fresno Assessment of Student Teachers—which has been in use at Fresno State since 2007.[22] As of 2023, these three TPAs—CalTPA, edTPA, and FAST—were approved for use in California (see "California's Approved Teaching Performance Assessments"). These assessments have some differences in their administration and structure, although all address the state's standards for beginning teachers, the Teaching Performance Expectations, and a set of design standards for administration and reliable scoring established by the CTC.[23]

California's Approved Teaching Performance Assessments

California's Commission on Teacher Credentialing (CTC) has approved three teaching performance assessments (TPAs) for use in the state: (1) the California Teaching Performance Assessment (CalTPA), (2) the educative Teaching Performance Assessment (edTPA), and (3) the Fresno Assessment of Student Teachers (FAST). While these assessments must meet the same underlying design standards and align with the CTC's Teaching Performance Expectations for beginning teachers, their approaches to administration and scoring vary in a few important ways. These differences are briefly described below.

CalTPA: The CalTPA is administered in two cycles, and each cycle requires candidates to submit videos of instruction and engage in a four-step process of planning, teaching and assessing, reflecting, and applying. The first cycle ("Learning about students and planning instruction") focuses on developing a content-specific lesson for a class within the candidates' school placement and for three focus students (an English learner, a student with disabilities, and a student who has experienced trauma) using an asset-based approach that addresses students' specific needs. There are eight rubrics used to score the first cycle, and candidates must receive a score of at least 19 points to pass. The second cycle ("Assessment-driven instruction") focuses on standards, assessment, and instructional decision-making and requires videos capturing student assessment and feedback, use of educational technology, and students' use of higher-order thinking skills and self-assessment. There are nine rubrics used to score the second cycle, and candidates must receive a score of at least 21 points to pass. Elementary candidates must take one of the cycles of assessment in literacy and the other cycle of assessment in math.

edTPA: The edTPA is administered in one cycle that has three tasks that capture planning, instruction, and assessment of student learning. The first task includes developing three to five content-specific lessons for a class, including three focus students (one English learner, one student with disabilities, and one student from an underserved background or with specific learning needs). The second task requires videos of instruction and interactions with students. The third task requires analysis of student work and feedback, including the three focus students. Elementary candidates must participate in a fourth task, which focuses on assessing mathematical or literacy learning. For most content areas, there are 15 rubrics to score the three tasks, and candidates must receive

41 points to pass. There are 18 rubrics for elementary candidates, and they must receive 49 points to pass. There are 13 rubrics for special education and world/classical languages candidates, and they must receive 35 points to pass.

FAST: The FAST is administered in two cycles. The first cycle is the site visitation project, which occurs during initial student teaching and requires three steps: (1) planning for a single content-specific lesson, (2) observation and video of that lesson, and (3) reflection and evaluation of the lesson. This project is scored using three rubrics, and candidates must receive at least 2 points per rubric (6 points total) to pass. The second cycle is the teaching sample project, which occurs during final student teaching, focuses on teaching a unit, and requires that candidates identify the context of the classroom; plan and teach at least five lessons; assess student learning before, during, and after the unit; document their teaching and students' learning; and reflect on their effectiveness. This project is scored using seven rubrics, and candidates must score at least 2 points per rubric (14 points total).

Sources: California Commission on Teacher Credentialing. (2022). *Inaugural annual report on the Commission approved teaching and administrator performance assessments*; California Commission on Teacher Credentialing. (2023). *CalTPA program guide*; California State University, Fresno. (2019). *Fresno Assessment of Student Teachers (FAST 2.0): A manual for teacher candidates*; Pearson Education. (2024). *edTPA for California*.

California-based preparation institutions tend to choose one TPA for use with all of their teaching candidates. Regardless of each program's choice of TPA, the CTC's program standards include guidelines about the implementation of their chosen TPA. In this standard, the CTC outlines how programs should administer the chosen TPA (e.g., identifying a TPA coordinator, ensuring candidates have access to clinical placements that allow for video recording, creating data systems to track scores) and the supports that programs must provide candidates in the TPA process.[24] These program supports include providing candidates with appropriate materials and training on TPA tasks and scoring, offering multiple formative opportunities for candidates to prepare for the tasks included on the chosen TPA, and providing additional supports for candidates who do not pass a TPA on their initial attempt.

A few notable changes have been made to California's TPA policy in recent years. All three TPAs were redesigned to align with the CTC's updated assessment design standards passed in 2015 and the Teaching Performance Expectations for beginning general education teachers, which were adopted in 2016. Before this redesign, TPP faculty scored the assessment of their program's candidates, with statewide requirements meant to ensure reliable and valid scoring, including scorer training, calibration, and audits. Both the CalTPA and edTPA now use centralized administration and scoring, in which a set of trained scorers assess candidates across the state, although TPPs may opt to continue with local scoring.[25] In 2020, the CTC expanded the TPA requirement to include education specialists (i.e., special education teachers working with students with disabilities) and began developing TPAs to cover these credential areas. These TPAs were piloted in 2021 and 2022, and certain education specialist candidates began taking a TPA as a requirement for their preliminary credential starting in the 2022–23 academic year.[26]

The COVID-19 pandemic interrupted the implementation of TPAs starting in the 2019–20 academic year. In May 2020, Governor Gavin Newsom signed an executive order that deferred the TPA requirement for teaching candidates and allowed candidates to receive their preliminary credential and take a TPA

while teaching as a condition of receiving their clear credential.[27] This flexibility ended on August 31, 2022. Although thousands of candidates continued to take and pass a TPA during the pandemic, at least 12,000 teaching candidates did not pass a TPA before receiving their preliminary credential in the 2019–20 or 2020–21 academic years.[28] The California legislature ultimately voted to waive the TPA requirement entirely for teachers who received a pandemic deferral as long as they completed an approved induction program and completed 2 years of service with satisfactory teacher evaluations.[29]

To reduce barriers to teaching candidates, the California legislature has also waived fees for licensing examinations, including TPAs, starting in August 2022.[30] Legislation passed in 2021 also identified coursework pathways and alternative tests that can satisfy the basic skills requirement (previously satisfied largely by the California Basic Educational Skills Tests) and the subject matter requirement (previously satisfied largely by the California Subject Examinations for Teachers).[31] In December 2023, the CTC decided to offer a secondary passing standard in which TPPs can recommend candidates who score within 1 standard error of measurement of the CalTPA or edTPA passing threshold as long as the program can demonstrate that candidate's proficiency on the state's Teaching Performance Expectations for beginning teachers.[32]

Factors That May Influence TPA Performance

Many preparation experiences, especially related to candidates' opportunities to practice their teaching skills and related supports for clinical practice, may influence candidates' success on a TPA. California—like other states requiring TPA passage for licensure—has developed guidelines for preparation programs about how to support candidates as they take a TPA.[33] Programs likely vary in how they implement these standards as well as in how they structure clinical practice opportunities and supports for their candidates (e.g., training and caseload for program supervisors, integration of coursework, amount and type of clinical feedback).[34] At a fundamental level, preservice preparation programs—such as student teaching and residency programs in which candidates have clinical placements working alongside a cooperating or mentor teacher before becoming a teacher of record—offer different structures and supports than in-service programs (i.e., internships) in which candidates are completing their preparation while serving as a teacher of record.

There is limited evidence in prior research about whether certain preparation experiences and supports are associated with candidates' success on a TPA. Small-scale studies have found suggestive evidence that certain activities—such as participation in practice tasks mimicking TPA tasks, certain coursework features, and study sessions focused on TPAs—were predictive of candidates' scores.[35] Analyses of edTPA scores in North Carolina found that candidates had higher edTPA scores, on average, when their student teaching placement was in schools with higher student achievement growth or when they worked with a more effective cooperating teacher.[36]

Qualitative case studies and interviews with TPP faculty and students about TPA implementation also highlighted approaches that may create better conditions for success. Programs have reported more success with TPA implementation when they can dedicate sufficient financial resources and create organizational structures that can support TPA implementation, such as ongoing faculty training, workshops and coursework supports for candidates, and leadership roles such as TPA coordinators.[37] Similarly, TPA implementation works better in programs that create organizational routines to ensure

that the TPA process is embedded into their program's curriculum (through processes like curriculum mapping) and that TPA results are used to inform programmatic improvement (through regular data analysis among faculty or cross-program sharing).[38] Importantly, developing the systems to better support the implementation and integration of a TPA into a preparation program is not easy, and many studies have highlighted the challenges facing TPP faculty during this process.[39] How faculty and programs approach TPAs—for example, as a tool for candidate learning and programmatic improvement rather than a compliance exercise required for certification—also influenced how candidates themselves perceived TPAs and their utility.[40]

Study Description

This analysis focuses on whether certain preparation experiences, such as preparation pathway, clinical support, or candidates' self-reported opportunities to learn in certain content areas, predicted how well California's teaching candidates do on a TPA.

These questions were examined by combining three data sets collected and shared by the CTC: (1) TPA records, (2) teaching credential information, and (3) teacher preparation program completer survey results. Since September 1, 2018, the CTC has received candidate-level TPA records for all California teaching candidates taking the CalTPA, edTPA, and FAST, and then matched those records with their credential database. These candidate-level data were used to identify each candidate's preparation pathway (i.e., preservice or internship), their credential type (i.e., elementary, secondary, or special education), the preparation program they attended, and their TPA outcomes (i.e., whether they passed and their specific scores for each attempt at any of the state's approved TPAs). This candidate-level information was then linked to program-level survey results from the CTC's program completer surveys.

Since 2016, the CTC has surveyed teacher preparation program completers as they applied for their preliminary teaching credential. This survey asks completers about their overall perceptions of their preparation program, the extent to which they felt prepared to meet the Teaching Performance Expectations, and their opportunities to learn how to teach in their content areas, among other questions. Elementary and special education completers are asked about their opportunities to learn how to teach specific aspects of literacy and math. Elementary and secondary completers are also asked about the extent to which their program prepared them for the TPA process.

Completers are asked about their clinical experience (student teaching, residency, or internship) and the amount of support they received around instruction from their TPP's faculty (e.g., how many times they were observed and how many times they received feedback on their instruction). Both traditional student teaching and newer residency programs are preservice options in California. When possible, these groups are examined separately, as their clinical experiences are often differently structured. As noted in an earlier examination of these data, residencies typically provide a longer (full-year) clinical experience in the classroom of a mentor teacher, and residents have reported more intensive clinical supports, on average, than student teachers.[41]

During the 2021–22 and 2022–23 academic years, 19,530 completers responded to the survey, a response rate of approximately 79%. For this analysis, the survey responses were averaged at the program level to create program-level ratings and these ratings were then linked to the candidates from that program who had TPA results. Programs were defined by the preparation pathway (preservice or

internship), credential type (elementary, secondary, or special education), and institution (e.g., San Diego State University; University of California, Riverside). For example, all the survey responses from the completers of San Diego State's preservice secondary preparation program were averaged together to create program-level ratings.

This analysis focused on all California teaching candidates who took either the CalTPA or the edTPA between September 1, 2021, and August 31, 2023 (*N*=18,455 candidates). The sample only included candidates taking the CalTPA or edTPA before receiving their preliminary credential. It excluded teachers taking a TPA after receiving a pandemic-related deferral that allowed them to get their preliminary teaching credential without passing a TPA and instead take a TPA during their induction program. Among this sample, 60% of candidates took the CalTPA (*N*=11,092), while the remaining 40% took the edTPA (*N*=7,363). Since the TPAs for special education teaching candidates are relatively new, only a small percentage of teaching candidates in this sample were special education candidates (*N*=341, 2% of sample). For more information on the candidates in this sample, see Table A4.

Candidates from Fresno State taking the FAST were excluded from this analysis for two reasons. First, passing rates on the FAST are extremely high, with over 92% of candidates passing on their first attempt and over 99% passing across all attempts.[42] Second, FAST is only used at one institution. This lack of variation does not support this analysis's objective to identify whether differences in preparation experiences are related to TPA results. Fresno State's preparation programs have been extremely successful at ensuring that their candidates pass the FAST, and their approach may serve as a model for other programs.

Measuring Candidate Success on the Teaching Performance Assessment (TPA)

As with many other types of assessments, teaching candidates receive an overall score for their teaching performance assessment (TPA) submission and individual scores for each rubric used to score their submission. For candidates taking the California Teaching Performance Assessment (CalTPA) and the educative Teaching Performance Assessment (edTPA), the overall score determines whether the candidate passes the cycle (in the case of CalTPA) or the assessment overall (in the case of the edTPA). For candidates, this indicator (passing/failing) is the most consequential since TPA passage is a requirement for their preliminary teaching credential. This report measures TPA success in multiple ways:

- **Initial passing:** This indicator captures whether candidates pass on their first attempt. Since the CalTPA requires two cycles, CalTPA candidates who pass on their first attempt for both cycles are counted as passing on their first attempt in this analysis.
- **Eventual passing:** This indicator captures whether candidates pass across all of their attempts. It includes candidates who passed on their first attempt but also candidates who passed on subsequent attempts.

- **TPA scores:** The underlying scores are also important indicators of candidate performance, so certain analyses examine the overall scores from a candidate's first attempt. Since CalTPA and edTPA use different scoring scales and rubrics, all score analyses were done separately for each assessment model.

For further discussion of passing indicators and TPA scores, see the Technical Appendix and Table A1.

Before describing the findings, it is important to note certain limitations of this analysis. First, this analysis can only capture preparation pathway (i.e., preservice or intern) and aspects of preparation that were reported in the CTC's program completer survey (i.e., perceptions about program support for the TPA process, amount of clinical observation and feedback from their TPP's program supervisor, and opportunities to learn specific aspects of teaching literacy and math). In contrast, the survey does not capture information on other important aspects of preparation that may influence TPA success, such as characteristics of candidates' clinical placement school site(s), the quality of the support provided by cooperating or mentor teachers and program supervisors, and the training and caseloads of program supervisors, among other important considerations.

Second, this analysis cannot account for differences between programs in the selection and academic background of their teaching candidates. Prior analyses of the edTPA have found that candidates with higher GPAs tend to perform better on the edTPA, on average.[43] If, for example, TPPs that systematically offer more clinical feedback for their candidates also consistently recruit candidates with stronger academic preparation, then differences in TPA outcomes based on the amount of clinical feedback could be biased by these differences in candidate background. Many TPA records cannot be connected to candidates' demographic information, including their race and ethnicity. The Technical Appendix goes into further detail about the data and methods used in this study, including more details on its strengths and limitations.

The results from this analysis are divided into two sections. The first section describes differences in passing rates across preparation pathways and programs. The second section examines whether certain types of preparation experiences—as measured by program-level ratings from program completer survey results—predicted candidates' success on a TPA.

Differences Across Pathways and Programs

The California Commission on Teacher Credentialing (CTC) publishes passing rates and average scores for approved teaching performance assessments (TPAs) in its annual reports and program-level passing rates in the annual report cards for preparation programs.[44] This analysis extends the CTC's reporting by describing and exploring variation across preparation pathways (preservice vs. internship programs) and programs. As noted in the introduction, the sample for this analysis as well as the approach to calculating passing rates somewhat differ from the TPA results published by the CTC. This analysis captures TPA results for 18,455 candidates who took either the California Teaching Performance Assessment (CalTPA) or the educative Teaching Performance Assessment (edTPA) between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take a TPA after they received their preliminary credential.

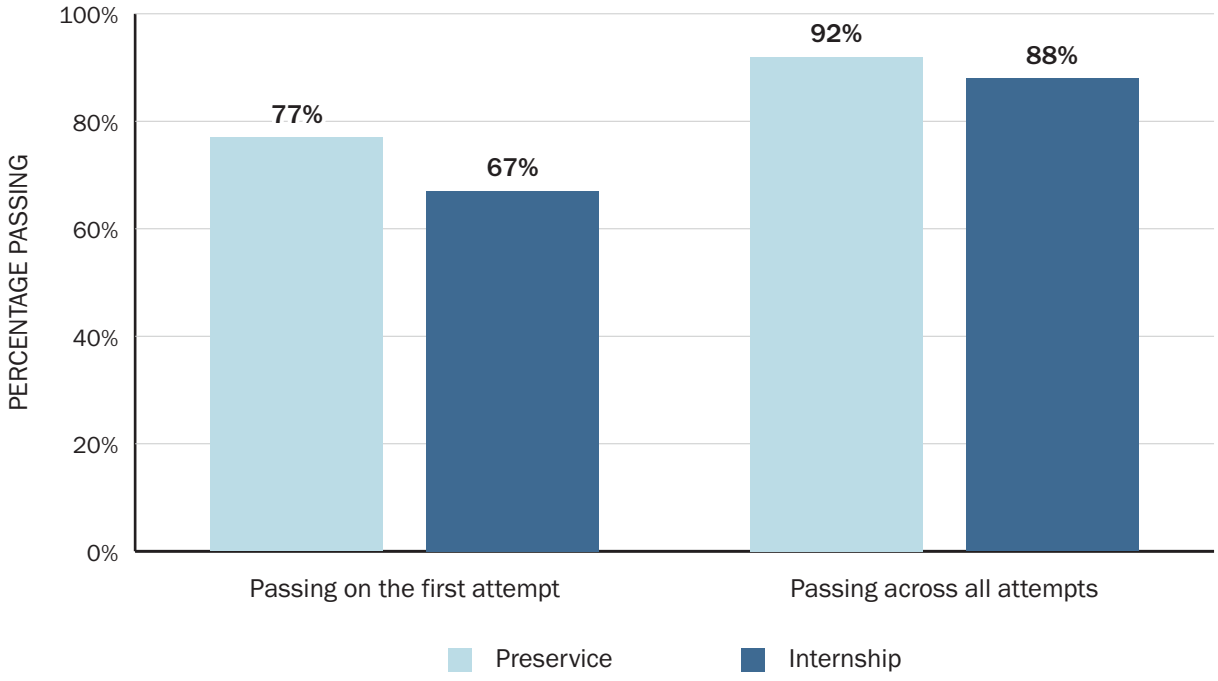
TPA Results by Preparation Pathway

As of 2021–22, three quarters of program completers from California's teacher preparation programs were completing preservice programs in which they completed preparation and clinical practice (i.e., student teaching or residency) before becoming a teacher of record. The remaining candidates completed internship programs in which they served as teachers of record while completing their preparation.[45] Overall, candidates enrolled in preservice preparation programs were more likely to pass a TPA on their first attempt or across all attempts when compared to candidates enrolled in internship programs.

Overall, candidates enrolled in preservice preparation programs were more likely to pass a TPA on their first attempt or across all attempts when compared to candidates enrolled in internship programs.

As shown in Figure 1, 77% of the preservice preparation candidates who took CalTPA or edTPA during the 2021–22 and 2022–23 academic years passed on the first try, and 92% of these candidates passed across all attempts. In comparison, 67% of intern candidates passed on the first try and 88% passed across all attempts. These passing rates do not include candidates who never attempted any TPA or candidates who received a pandemic-era deferral to take a TPA after receiving their preliminary credential. As explored in the next section, there was still considerable variation in passing rates even among preservice or intern programs. Among interns, candidates in internship programs based at institutions of higher education were more likely to pass on their first attempt (68%) compared to interns in programs run by local education agencies (61%).

Figure 1. Passing on Teaching Performance Assessments by Preparation Pathway



Note: Both differences are statistically significant based on t-tests. This analysis includes candidates who took the CalTPA or the edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates taking CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. The analysis includes 14,415 preservice candidates and 3,696 intern candidates.

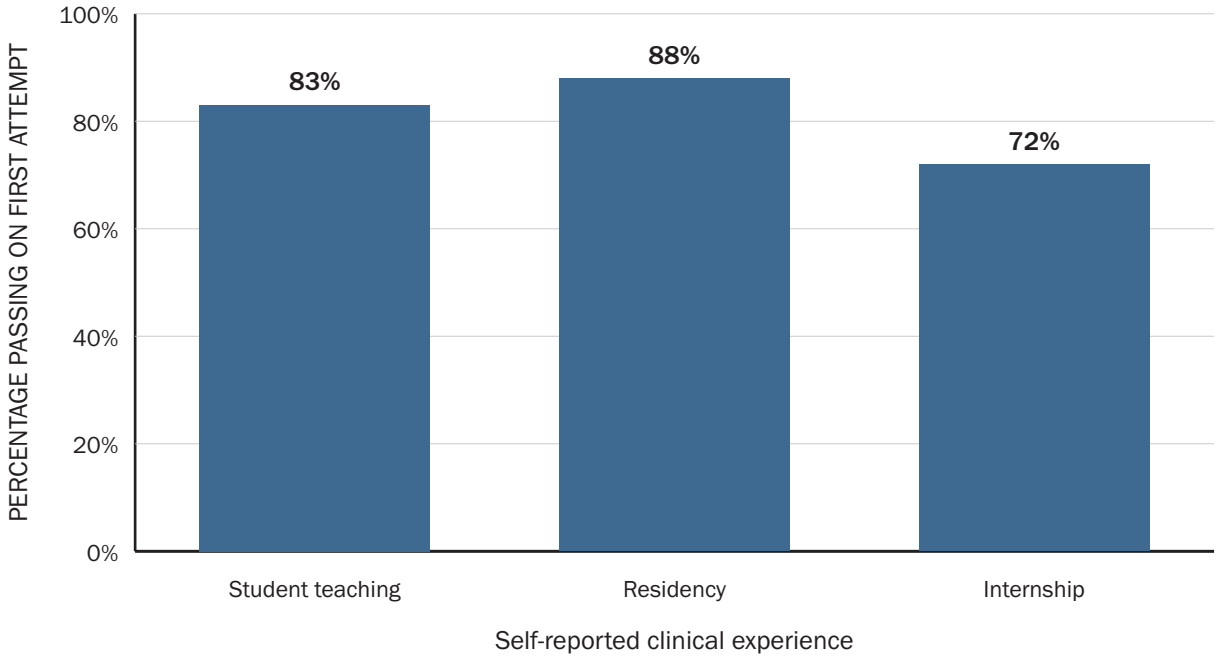
Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

The overall scores for preservice candidates taking the CalTPA were slightly higher, on average, than scores for intern candidates taking the CalTPA, but the differences are small in magnitude (about 0.8 points, or 0.1 standard deviations). For candidates taking the edTPA, the overall scores for preservice candidates were 3.8 points higher, on average, than the scores for internship candidates. This is a large and meaningful difference (about 0.5 standard deviations).

Preservice programs in California include both traditional student teaching programs run by institutions of higher education and residency programs run in partnership between TPPs and school districts in which candidates complete their preparation while working for a full year alongside an experienced mentor teacher. As of 2020–21, about 1 in 10 of California's teacher preparation program completers reported participating in residency programs.[46] Residents cannot be differentiated from those in traditional preservice programs in the CTC's credential database, so it is difficult to examine whether TPA outcomes are systematically different for all residency candidates compared to all student teachers or interns.

Since 2020–21, the CTC's program completer survey has asked program completers to self-identify whether they participated in a residency. There was a subset of candidates whose TPA records could be matched to their program completer survey responses (survey respondents from the 2021–22 and 2022–23 academic years from all campuses except the California State University system).[47] As shown in Figure 2, residents in this subsample were more likely to pass a TPA on their first attempt than student teachers or interns.

Figure 2. Initial Passing on Teaching Performance Assessments by Clinical Experience Among Subsample of Program Completers



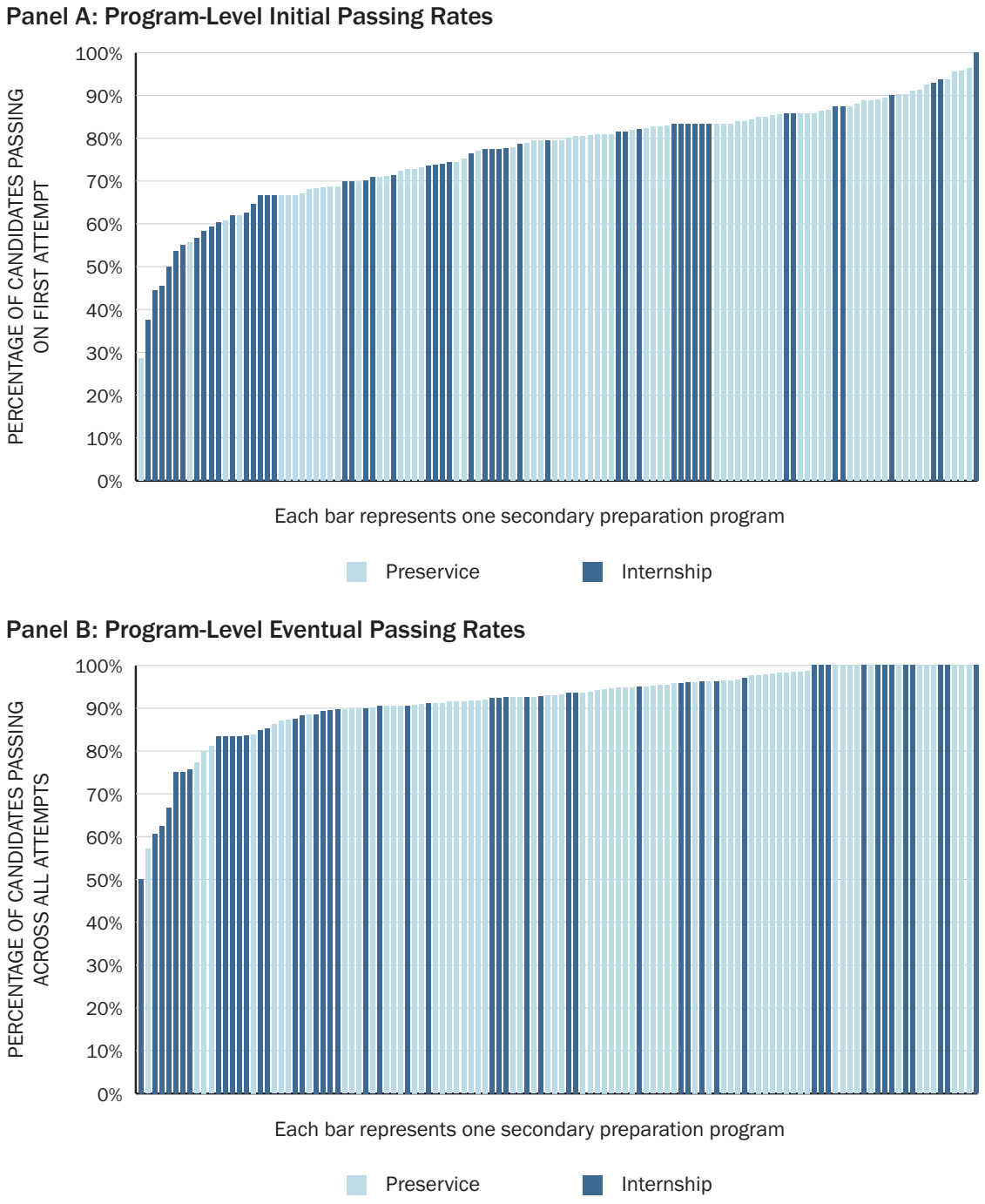
Note: This analysis only includes program completers who responded to the CTC's program completer survey in 2021–22 and 2022–23 and whose survey responses could be linked to their TPA records (2,378 student teachers, 325 residents, and 780 interns). It does not include candidates from the California State University system because their program completer survey results cannot be linked at the individual level to their TPA assessment results.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Variation Across Programs in TPA Results

Preparation programs differ in how they structure clinical practice and in their approaches to supporting candidates through the TPA process. TPA passing rates also varied considerably across preparation programs. To illustrate this variation, Figure 3 shows how initial and eventual passing rates varied across secondary programs.

Figure 3. Teaching Performance Assessment Passing Rates for Secondary Preparation Programs



Note: This analysis includes 120 secondary preparation programs that had at least five candidates take the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates taking CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Program size varies, with between 6 and 593 test-taking candidates in each program.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Many secondary programs have been very successful in ensuring the vast majority of their candidates pass a TPA across all of their attempts, as illustrated in Panel B of Figure 3. Among the 120 secondary preparation programs included in this analysis, 87 programs (73% of secondary programs) had eventual passing rates above 90%, 48 programs (40%) had eventual passing rates above 95%, and 24 programs (20%) had all of their candidates pass a TPA. In contrast, there were nine programs that had eventual passing rates below 80% and five programs that had fewer than two thirds of their candidates pass a TPA across all attempts. These five programs were all small programs run by private institutions of higher education, including one preservice program and four internship programs. As shown in Panel B of Figure 3, there were more intern programs than preservice programs with eventual passing rates under 90%, although there was wide variation in passing rates for both intern and preservice programs.

At the individual candidate level, there were 593 secondary candidates in this sample who never passed a TPA, including 408 preservice candidates from 59 different preservice programs and 185 intern candidates from 37 different intern programs. Compared to the full sample of secondary candidates, these "non-passers" were more likely to be interns, more likely to attend programs run by private institutions of higher education, and more likely to attend the smallest programs.[48]

Broadening the analysis to include all programs (elementary, secondary, and special education), a few patterns emerge. Across the 263 preparation programs with at least five candidates taking a TPA across these 2 years, 167 programs (63%) had eventual passing rates above 90%, 101 programs (38%) had eventual passing rates above 95%, and 61 programs (23%) had all of their candidates pass a TPA. Overall, secondary and special education programs had higher passing rates, on average, than elementary programs, while preservice programs had higher average passing rates than intern programs. When comparing these passing rates to those reported by the CTC for prior years, elementary programs had much higher passing rates before the COVID-19 pandemic (although across all years elementary programs have, on average, lower passing rates than secondary and special education programs).[49] Notably, elementary candidates must document their teaching skills across two subjects (literacy and math), and each assessment has added elements for elementary candidates. This added complexity, along with pandemic-era challenges with clinical practice in elementary programs, could partially explain these differentials.

In contrast, there were some programs with much lower initial or eventual passing rates. Across all program types, 35 of the 263 programs had eventual passing rates under 80%, and 14 programs (about 5%) had fewer than two thirds of their candidates eventually pass a TPA. When comparing these 35 lower-performing programs to all other programs (see Table A5), there are a few notable differences. Just under half of these 35 programs are internship programs, and all programs were small (i.e., with fewer than 50 candidates taking a TPA during this 2-year period). When examining the program-level ratings created from the program completer survey, these lower-performing programs were more likely to be in the lowest quartile of programs based on completer survey results in terms of TPA support, preparation to teach literacy, and preparation to teach math. As explored later, these ratings are significant predictors of the likelihood of passing a TPA at the candidate level.

Variation by Candidate Race and Ethnicity

Ideally, this analysis would be able to describe how TPA success varied across individual-level characteristics in addition to differences across programs. Disparate passing rates by candidate race and ethnicity may be a signal of racial bias in the assessment or assessment process or an indicator of differential preparation or performance for different groups of candidates. Prior studies sometimes find that Black, Latino/a, or Native American candidates had lower average scores or lower passing rates compared to White candidates, although the presence and magnitude of differences varied considerably across states and studies.[50] Importantly, these studies do not typically account for potential differences across candidate race and ethnicity in preparation experiences or the supports that candidates receive to complete a TPA.

In California, the CTC has published CalTPA and edTPA passing rates by candidate race and ethnicity in recent years.[51] Although the disparities varied across TPA model and testing year, the differences in TPA passing rates are much smaller than previously reported disparities on other licensure exams, including the California Basic Educational Skills Test and the California Subject Examinations for Teachers.[52] For the CTC-reported CalTPA and edTPA passing rates from the past 5 years, there have tended to be lower initial passing rates among Black candidates and sometimes among Native American candidates compared to Asian, Latino/a, Pacific Islander, or White candidates. Notably, recent studies of the California teacher pipeline have found that California's Black and Native American teachers were more likely to complete internship programs rather than preservice programs compared to Asian, Latino/a, Pacific Islander, or White teachers, so these differential TPA passing rates—where they occur—may partially reflect average differences in the preparation experiences of candidates of different racial and ethnic backgrounds.[53]

Documenting differences in TPA success for teaching candidates of different racial and ethnic backgrounds is critically important, as is better understanding what may explain any differences. Unfortunately, the data used in this analysis can only capture racial and ethnic identity for 4,323 candidates with TPA records (about one quarter of all candidates in the full analysis and excluding candidates from the California State University system). Among this sample, overall differences in the initial passing rates were similar to those reported by the CTC. Notably, among programs with passing rates above 90%, there were no statistically significant differences in passing rates by candidate race and ethnicity. Disparities were much larger among programs with lower overall passing rates: These rates were found to be correlated with access to content-specific preparation and clinical support for candidates.

Differences by Preparation Experiences

Candidates' success on a TPA likely varies depending on their experiences during preparation. As shown in the previous section, passing rates varied considerably across preparation programs. The analyses in this section explore several factors that might explain the wide variation. Specifically, this section examines whether program-level ratings on certain aspects of preparation—created using responses from the California Commission on Teacher Credentialing (CTC)'s program completer surveys—predicted TPA passing and scores. This survey asks preparation program completers, who have already fulfilled the TPA requirement, multiple questions about program support for taking a TPA as well as questions about preparation experiences and clinical support.[54] Between September 1, 2021, and August 31, 2023, 19,530 program completers responded to the survey.

For each aspect of preparation explored in this section, programs were split into quartiles based on program-level ratings that captured the average responses of completers from that program. Then, logistic regression models were used to estimate whether the odds of passing a TPA varied between candidates from the bottom quartile (i.e., the 25% with the lowest ratings) and candidates from the other three quartiles. These models make these predictions while accounting for differences in candidates' credential type, preparation pathway, assessment model, and testing year.

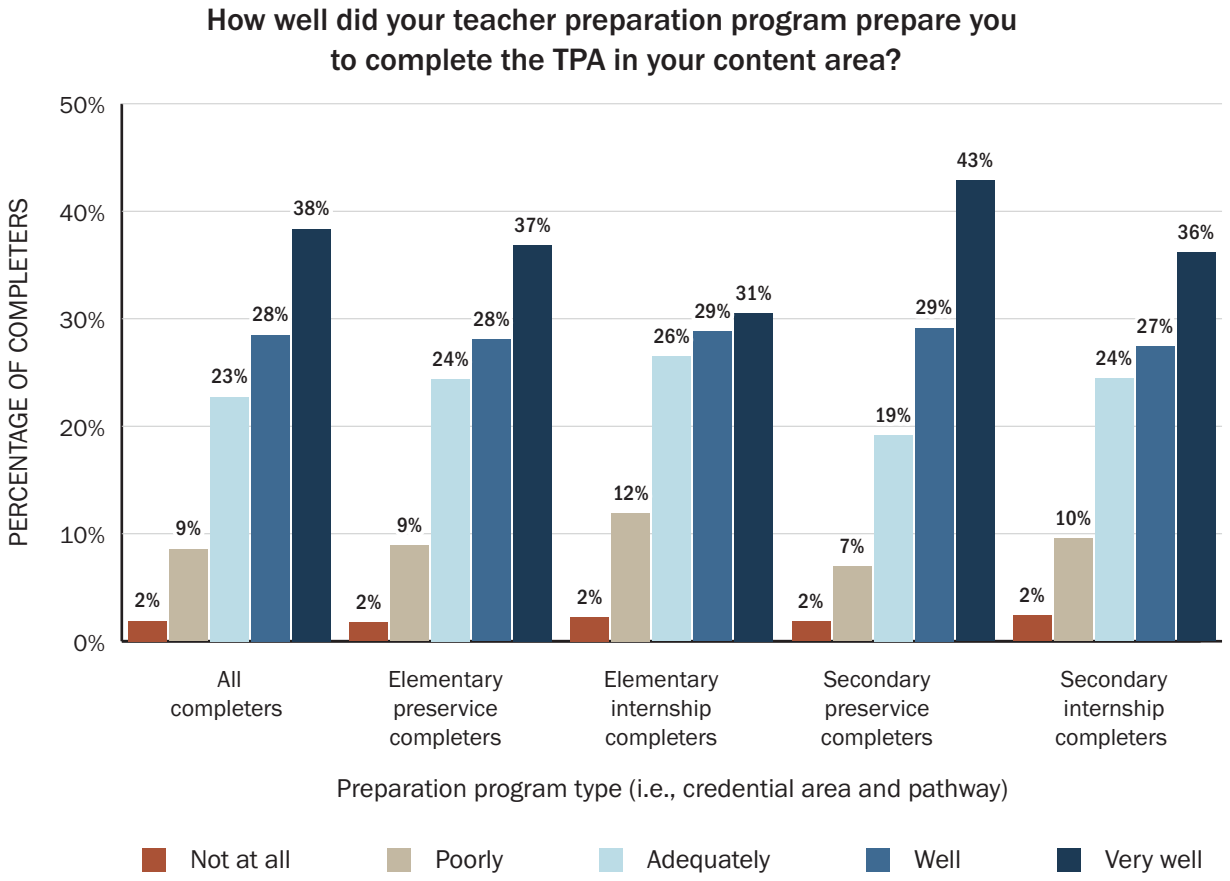
These results are displayed as odds ratios. If comparing the top quartile (i.e., the highest-rated programs) to the bottom quartile, an odds ratio of 1 would indicate that candidates from the highest-rated programs have, on average, the same odds of passing as candidates from the lowest-rated programs. Odds ratios above 1 indicate that candidates from the highest-rated programs have higher odds of passing than candidates from the lowest-rated programs. For example, if the odds of passing are 4:1 for the lowest-rated programs (i.e., 80% of candidates in those programs pass) and the odds of passing are 8:1 for the highest-rated programs (i.e., 89% pass), the odds ratios comparing the highest to lowest-rated programs would be 2.

Program Completers' Perceptions of TPA Support

Overall, about two thirds of program completers who responded to the CTC survey in the 2021–22 or 2022–23 academic years reported feeling well prepared by their program to take a TPA. As shown in Figure 4, completers from secondary preservice programs were the most likely to report feeling well or very well prepared for the TPA process, compared to completers from elementary preservice and both elementary and secondary internship programs. Across all program types, about 1 in 10 program completers reported that their program prepared them poorly or not at all.

Overall, about two thirds of program completers who responded to the CTC survey in the 2021–22 or 2022–23 academic years reported feeling well prepared by their program to take a TPA.

Figure 4. Program Completers' Perceptions of Preparation for the Teaching Performance Assessment



Note: This analysis includes completers who responded to a multiple subject (i.e., elementary) or single subject (i.e., secondary) program completer survey between September 1, 2021, and August 31, 2023, excluding completers who did not self-report their preparation pathway. There were 14,709 completers who responded to this question, including 6,764 elementary preservice completers, 1,375 elementary internship completers, 5,282 secondary preservice completers, and 1,288 secondary internship completers.

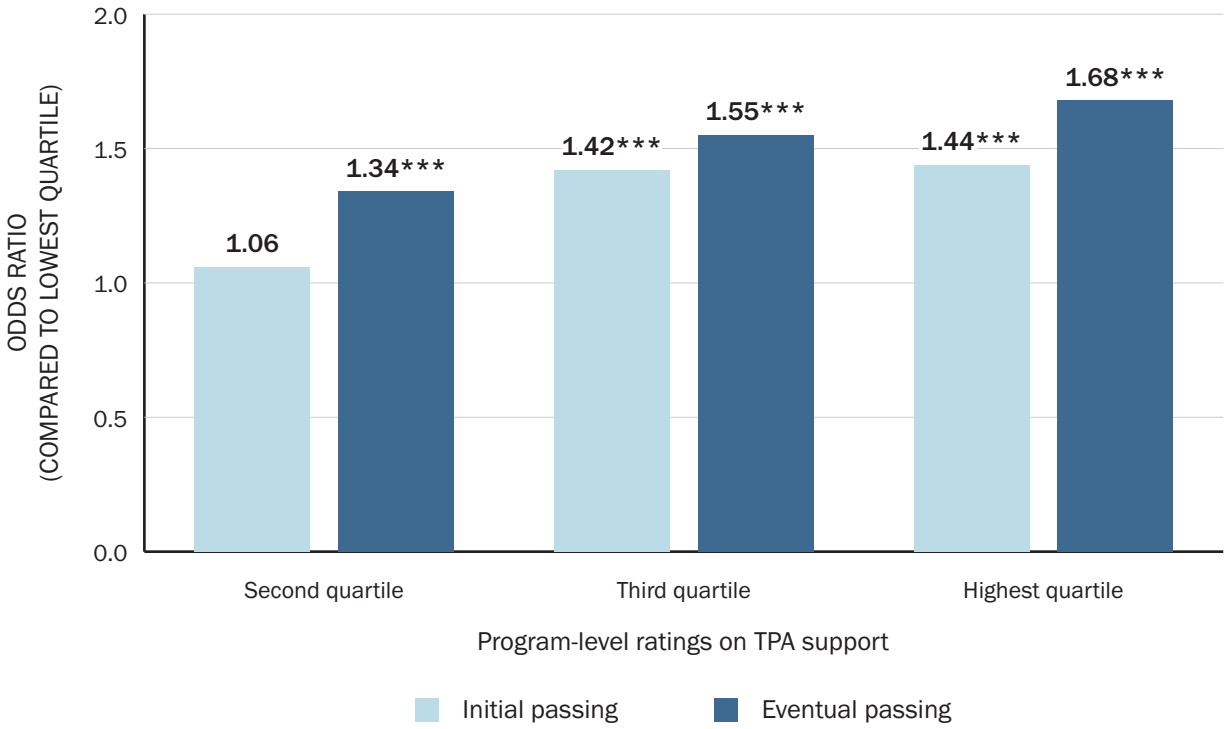
Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

In addition to this overall question about preparation for a TPA, all completers were asked about how well their program helped them understand the purpose of TPAs, specific TPA tasks, TPA scoring rubrics, and the TPA submission and scoring processes. Completers who were not successful on their first attempt were also asked how well their program provided remediation to prepare their resubmission, and 66% of these respondents reported that their programs provided remediation well or very well. (See Table A3 for the full results from this set of survey questions.)

These survey responses were used to create program-level ratings of TPA support to be able to compare TPA results across candidates from differently rated programs.[55] Elementary and secondary candidates from programs with higher ratings of TPA support were more likely to pass a TPA on their first attempt and across all of their attempts, as shown in Figure 5. Among elementary and secondary candidates, the odds

of passing on the first try were 1.4 times higher for candidates from the highest-rated programs compared to candidates from the lowest-rated programs, while the odds of passing across all attempts were 1.7 times higher (see Panel A in Table A7). When expressed as predicted probabilities, an estimated 88% of candidates passed across all attempts in the lowest-rated programs compared to 93% for candidates from the highest-rated programs, all else equal. Given the high rate of eventual passing among teaching candidates in this sample, this is a sizeable difference in the average likelihood of passing.

Figure 5. Comparing Odds of Passing by Program-Level Rating on Program Support for the TPA



Note: This figure presents odds ratios from analyses examining the likelihood of passing that compares candidates across programs with different program-level ratings on TPA support. The analysis includes elementary and secondary candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis. Asterisks illustrate statistical significance, with * indicating $p < .05$, ** indicating $p < .01$, and *** indicating $p < .001$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

In addition to examining differences in whether or not a candidate passes, this analysis explored whether program-level ratings were associated with TPA scores. Higher program-level ratings on TPA support were also predictive of higher CalTPA and edTPA scores. As shown in Panel A of Table A8, candidates from the highest-rated programs were predicted to score significantly higher on either the CalTPA or edTPA compared to candidates from the lowest-rated programs (differences ranged from 0.1 to 0.2 standard deviations).

Preparation in Teaching Literacy and Math

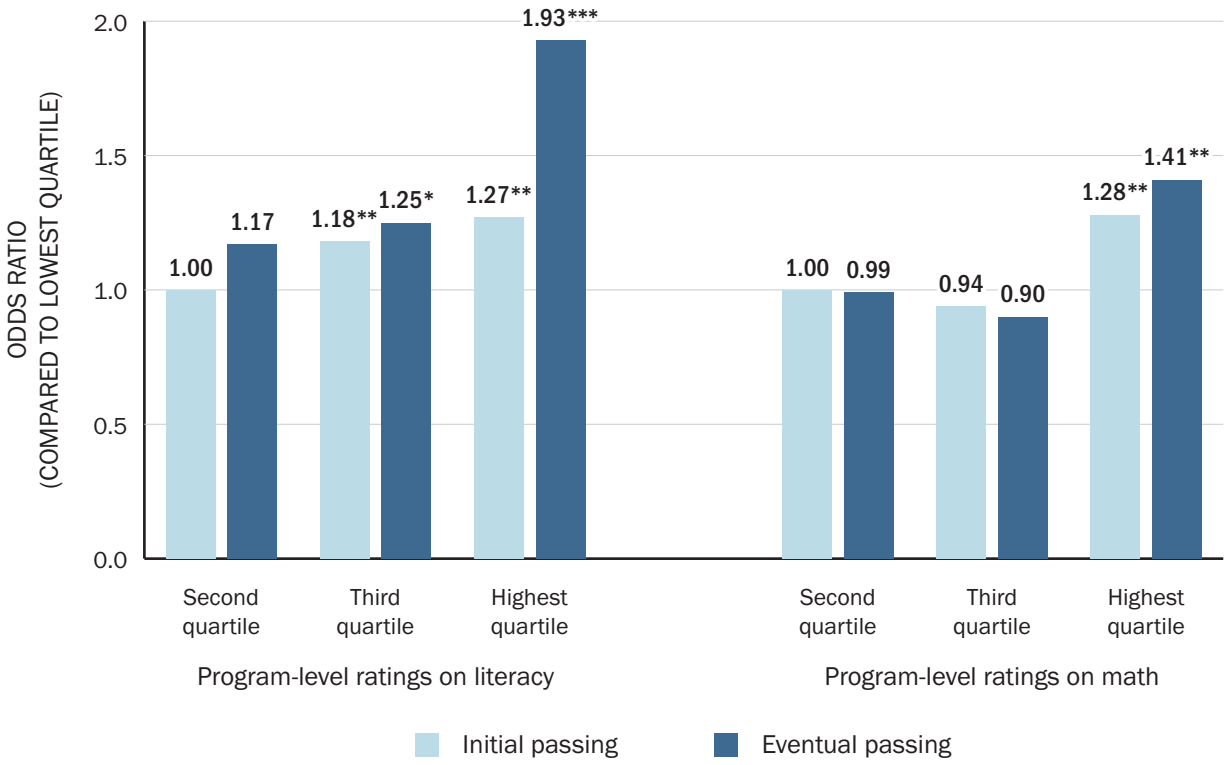
On the completer survey, completers from elementary and special education preparation programs were asked about their opportunities to learn how to teach specific aspects of literacy and math. Past research using this California survey data found that candidates reporting more extensive opportunities to learn how to teach literacy and math were more likely to feel well prepared and rate their preparation programs as effective.[56] Research from New York City using the same set of survey questions found that certain opportunities to learn during preparation predicted the student achievement score gains, especially in math, for teaching candidates once they entered the classroom.[57] TPAs for elementary and special education teaching candidates specifically include tasks to measure candidates' ability to teach literacy and math. Elementary and special education programs were categorized in four quartiles based on their completers' average responses to this set of questions asking about opportunities to learn about teaching literacy and separately about opportunities to learn about teaching math. The program completer survey for secondary teachers did not have an equivalent set of questions about their opportunity to learn in their content areas.

> Candidates from the highest-rated programs for preparation in literacy were significantly more likely to pass a TPA, on average, when compared to candidates from the lowest-rated programs.

Program-level ratings on the opportunity to learn about teaching literacy were predictive of the likelihood of passing a TPA. These ratings were based on the extent to which completers reported having certain preparation experiences related to teaching literacy, including an opportunity to plan and teach a guided reading lesson, study state standards for reading/language arts, and learn ways to teach decoding skills, among other aspects. Candidates from the highest-rated programs were significantly more likely to pass a TPA on their first attempt and overall, on average, when compared to candidates from the lowest-rated programs. As shown in Figure 6, the odds of passing on the first attempt were 1.3 times higher for candidates from programs with the highest ratings on preparation in teaching literacy compared to candidates from programs with the lowest ratings. The odds of passing across all attempts were 1.9 times higher for candidates from the highest-rated programs compared to candidates from the lowest-rated programs. When estimated as predicted probabilities, 93% of candidates from the highest-rated programs were predicted to pass across all of their attempts, on average, compared to 87% of candidates from the lowest-rated programs.

Program-level ratings on preparation in math also significantly predicted TPA passage. These ratings were based on the extent to which completers reported having certain preparation experiences related to teaching math, including an opportunity to learn how to facilitate math learning for students in small groups, study national or state standards for math, and learn typical difficulties students have with place value, among other aspects. The odds of passing across all attempts were 1.4 times higher for candidates from programs with the highest ratings on preparation in teaching math compared to candidates from the lowest-rated programs (see Figure 6).

Figure 6. Comparing Odds of Passing by Program-Level Rating on Preparation to Teach Literacy and Math



Note: This figure presents odds ratios from an analysis examining the likelihood of initial passing that compares candidates across programs with different program ratings on opportunities to learn about teaching literacy or math. The analysis includes elementary and special education candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis. Asterisks illustrate statistical significance, with * indicating $p < .05$, ** indicating $p < .01$, and *** indicating $p < .001$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Beyond the likelihood of passing, higher program-level ratings on preparation in literacy and math also predicted higher TPA scores for candidates taking the edTPA, while results were more mixed for candidates taking the CalTPA (see Panel B and Panel C of Table A8). For edTPA candidates, scores from candidates in the higher-rated programs were significantly higher compared to candidates in the lowest-rated programs (differences between 0.1 and 0.5 standard deviations). For CalTPA candidates, preservice candidates from the highest-rated programs for preparation in teaching math had significantly higher scores than candidates from the lowest-rated programs (0.2 standard deviation difference), while the patterns were inconsistent for program-level ratings in literacy and CalTPA scores.

Clinical Support

On the completer survey, completers were asked about the extent to which their program faculty or staff offered clinical support. Specifically, the survey asked about how often program faculty communicated with them about their teaching practice, the number of times program faculty had observed their teaching, and the number of times their program provided feedback on their classroom instruction. Past research using this survey data found that candidates reporting more clinical support were more likely to feel well prepared and rate their preparation programs as effective, and employers also rated preservice preparation programs more highly, on average, if their completers reported more clinical support.[58]

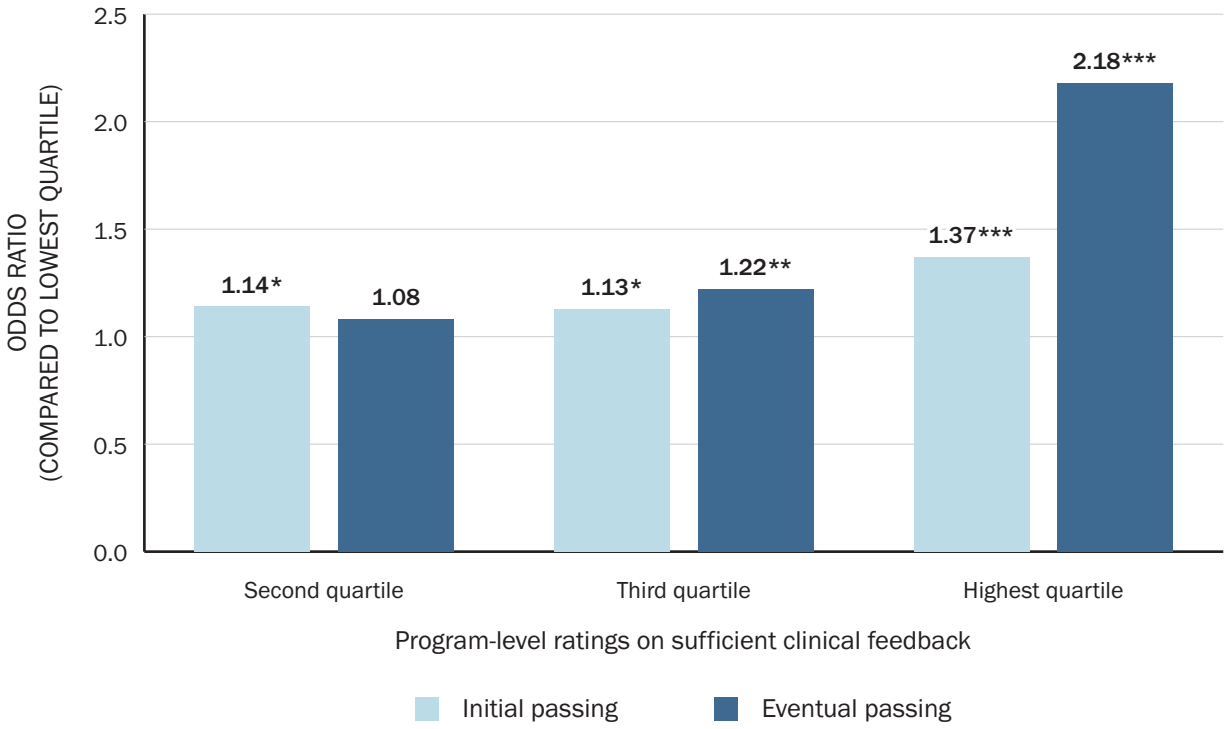
Program-level ratings on the amount of clinical support—which created an average of the frequency of communication about teaching, observation, and feedback from program faculty—were predictive of the likelihood of passing across all attempts for preservice candidates but not interns (see Panel D of Table A7), but odds of initial passing did not vary significantly based on these ratings. Program-level ratings on clinical support were not positive predictors of internship candidates' likelihood of passing a TPA, and, in some cases, intern candidates from higher-rated programs were less likely to pass.

The analysis described above assumes that more clinical support is always better, but there may be an important threshold for enough support. Past research using this survey data found that candidates reporting the most-limited clinical observations and feedback (i.e., 5 times or fewer over their preparation) were the least likely to rate their preparation programs as effective.[59] This threshold also aligns with the CTC's program standards requiring that program supervisors observe and evaluate candidates at least 4 times per quarter or 6 times per semester. Importantly, these ratings only capture the frequency of clinical support and do not capture the quality of the clinical support provided to candidates (e.g., the expertise of the program supervisor).

The next set of analyses focused on one form of clinical support—receiving feedback on classroom instruction—and whether candidates reported sufficient opportunities to receive clinical feedback (i.e., receiving feedback on their instruction more than 5 times).[60] Program-level ratings on sufficient clinical feedback were positive and statistically significant predictors of TPA passage for preservice candidates (see Panel E of Table A7). As shown in Figure 7, the odds of passing across all attempts were more than 2 times higher for candidates from the highest-rated programs compared to candidates from the lowest-rated programs. Expressed in predicted probabilities, 95% of candidates from the highest-rated preservice programs were predicted to pass across all attempts, compared to 90% of candidates from the lowest-rated preservice programs, all else equal.

Program-level ratings on sufficient clinical feedback were more predictive of TPA success than the program-level ratings on the frequency of clinical support, suggesting the importance of programs offering an adequate amount of clinical supports rather than assuming that more is always better (see Panel D and Panel E of Table A7). In the highest-rated programs, 99% of preservice completers, on average, reported that they received instructional feedback more than 5 times, while, on average, 71% of completers in the lowest-rated programs reported this level of sufficient clinical feedback. Program ratings on sufficient feedback were not predictive of the likelihood of TPA passage for internship candidates.

Figure 7. Comparing Odds of Passing by Program-Level Rating on Sufficient Clinical Feedback for Preservice Candidates



Note: This figure presents odds ratios from an analysis examining the likelihood of initial passing that compares candidates across programs with different program ratings on the percentage of candidates reporting that they received feedback on their teaching more than 5 times during their clinical practice. The analysis includes elementary, secondary, and special education candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis. Asterisks illustrate statistical significance, with * indicating $p < .05$, ** indicating $p < .01$, and *** indicating $p < .001$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Program-level ratings on sufficient clinical feedback were predictive of higher TPA scores for candidates taking the edTPA (see Panel E of Table A8). Scores on their first attempt were, on average, 0.15 standard deviations higher for edTPA candidates whose programs were the highest rated, compared to candidates from the lowest-rated programs. For CalTPA candidates, the pattern was reversed. The predicted scores were lower, on average, for candidates in the highest-rated programs compared to candidates in the lowest-rated programs (an average difference of 0.15 standard deviations). Across almost all analyses, program-level ratings had stronger associations with edTPA scores than with CalTPA scores.

Implications

Summary of Findings

Since California requires teaching candidates to pass a teaching performance assessment (TPA) before they can receive their preliminary teaching credential, it is critical to understand how preparation programs can support candidates through the TPA process. When examining TPA results for candidates who took the California Teaching Performance Assessment (CalTPA) or the educative Teaching Performance Assessment (edTPA) between September 1, 2021, and August 31, 2023, this analysis repeatedly finds average differences in the likelihood of passing a TPA that are associated with candidates' preparation pathway, program, and experiences.

Key findings include:

- Preservice candidates were more likely to pass and have higher TPA scores, on average, compared to intern candidates across all credential areas. Candidates known to be in residency programs had higher TPA pass rates than those in other pathways.
- Within these preparation pathways, program-level passing rates varied widely across teacher preparation programs (TPPs). About one fifth of the 263 programs in this analysis had an eventual passing rate of 100%, while 35 programs (13% of all programs in the analysis) had rates below 80%.
- Two thirds of responding elementary and secondary program completers reported feeling well or very well prepared by their program to complete a TPA, 22% felt adequately prepared, and 11% reported feeling poorly or not at all prepared. Candidates' ratings of TPA support, aggregated to the program level, were predictive of TPA passing rates for preservice and intern candidates.
- For elementary and special education candidates, higher program-level ratings on preparation to teach literacy and math were predictive of TPA success.
- For preservice candidates, program-level ratings capturing adequate clinical feedback were predictive of TPA pass rates across all credential areas. This pattern did not hold for intern candidates.

These types of preparation experiences—increased access for teaching candidates to learn how to teach in their content areas and opportunities to practice those skills with sufficient observation and feedback from TPP faculty—are not "teaching to the test" to improve candidates' TPA scores but rather are preparing candidates for the everyday tasks of teaching. Prior research, in California and beyond, underscores that these types of preparation experiences are associated with candidates' own feelings of preparation; the extent to which hiring principals rate their new teachers' preparation as effective; and, in some cases, the effectiveness of teaching candidates once they enter the classroom.[61]

Avenues for Future Research

Especially given the limitations of the information provided in the program completer survey, these findings suggest many potential avenues for future research. First, while the program completer survey captured perceptions of program support for taking a TPA, it is critical to better capture—potentially

through surveys or qualitative fieldwork—specific supports and structures provided by preparation programs that help candidates improve their teaching ability and demonstrate their competency on a TPA. Many important elements of preparation are not captured in the program completer survey and, therefore, are not included in this analysis. Prior research indicates that the effectiveness of clinical placement sites and cooperating teachers matter for TPA success, as do specific supports provided by programs, such as integrating tasks that teach aspects of teaching assessed in the TPA process into their coursework and ensuring faculty and candidates have proper training on TPAs.[62]

The findings presented here suggest that different types of support may matter for preservice candidates and interns, who are already working as teachers of record. It may be that the program completer survey did not capture the types of supports that matter the most for intern candidates, such as supports embedded in their school or district. The program-level results indicate that some intern programs were very successful in ensuring their candidates showed mastery on a TPA, while others were not, and follow-up research could specifically explore the types of supports that matter in different preparation contexts. For example, even some programs with lower initial passing rates in this analysis were eventually successful in making sure that the vast majority of their candidates pass a TPA, and better understanding of the types of additional supports provided to these candidates who did not pass initially may be particularly fruitful.

In addition, this analysis cannot clearly capture whether and how TPA success may vary across all candidates' demographic or academic backgrounds. Published passing rates in California have indicated that underserved candidates of color, especially Black and Native American candidates, were less likely to pass a TPA on their first attempt, but state-level analyses have not previously examined potential differences in preparation experiences.[63] Previous research has found that Black and Native American candidates were less likely to receive preservice preparation through student teaching or residencies,[64] compared to all other racial or ethnic groups, and this analysis found that candidates completing preservice preparation were more likely to pass a TPA than those completing internship programs. Exploratory analyses using available data, including about one quarter of the full sample, indicate that racial and ethnic differences in TPA passing rates varied across programs, with high-performing programs seeing no significant difference in passing by candidate race and ethnicity.

Future research with more complete information on candidate background could explore whether and to what extent disparate passing rates by race and ethnicity are explained by differences in preparation experiences. Especially when coupled with in-depth examples of the preparation and supports experienced by candidates of color, this type of research could better inform current conversations about how the TPA requirement impacts efforts to further diversify California's teacher workforce.

Implications for Policy and Practice

These differences in TPA success across programs and experiences underscore the importance of ensuring that candidates are provided sufficient opportunities during preparation to practice their teaching with support and then document those skills on a TPA. Given the lower passing rates for elementary candidates overall, the findings highlight the importance of ensuring that elementary teaching candidates get strong opportunities to learn about and practice skills related to teaching literacy and math.

The CTC is particularly well positioned to provide additional support for programs with the lowest TPA passing rates through the accreditation process, especially to ensure that these programs are upholding the program standard related to TPA implementation. CTC staff already work closely with CalTPA program coordinators within TPPs, especially those with lower passing rates. In addition, the findings suggest that the program completer survey results about TPA support offer an additional way to gauge a program's success in supporting its candidates and potentially differentiate struggling programs.

Furthermore, several recent statewide changes have lowered some potential barriers for teaching candidates, especially recent state budget allocations that cover the cost of all licensure exams for California teaching candidates. Given that a substantial subset of teaching candidates in this analysis did not pass on their first attempt, covering the cost of all assessments—which previously cost $300 for both the CalTPA and edTPA—is an important step to ensure that TPA assessment costs are not a financial barrier for potential teachers.

Teaching candidates likely do not have equal access to high-quality preparation that sets them up for success on a TPA and in their career as a beginning teacher. Recent statewide investments, including the Golden State Teacher Grant Program and the Teacher Residency Grant Program, are meant to improve access to preparation by offsetting the costs of preparation and creating more preservice preparation options in which candidates get intensive clinical practice while receiving a stipend. Such investments may also help address disparate passing rates for underserved teaching candidates of color by increasing their access to high-quality preparation.

TPA data, along with the program completer survey data analyzed here, can help support continuous improvement among programs. Indeed, many California programs already use these data to target support for individual candidates and make programmatic decisions and adjustments.[65] However, there are many barriers to integrating this form of data use into practice, including challenges with resources and capacity. Some programs may need better support or systems to be able to learn from their TPA results, especially small programs outside of the public university systems. Rubric-level data—which were not fully explored in this analysis—may offer the most valuable information for programs as they assess certain instructional areas in which their candidates excel or struggle.[66]

Prior research has also pointed to the positive impact that local scoring of TPAs can have for continuous improvement by improving faculty understanding of the assessment itself and rubrics for scoring, directly identifying particular areas where their candidates may be struggling and may need more support, and enabling a feedback loop for curricular and clinical programmatic changes.[67] While current policy allows programs the option of local, rather than centralized, scoring—with checks for calibrated scoring—no programs using the CalTPA or edTPA are currently using that option.

The CTC already regularly holds "digging deeper" seminars in which TPP faculty share best practices about support for TPAs, hosts an annual conference for TPPs focused on the implementation of TPAs, and provides several resources specific to the CalTPA—including office hours with CTC staff, multiple trainings for TPP faculty, and quarterly meetings for CalTPA coordinators.[68] Building on these existing resources, along with connecting struggling programs with those with documented success with TPA implementation, could create more opportunities for programmatic learning and improvement.

Technical Appendix

Data

This analysis combined three sets of data provided by the California Commission on Teacher Credentialing (CTC): (1) the teaching performance assessment (TPA) records, (2) the credential files, and (3) the program completer survey results. Each data file included candidate identifiers as well as information on preparation institution and credential area. These identifiers allowed me to combine these data files into one analytic file. In the following sections, I describe each data file and the measures created from each type of data.

Teaching Performance Assessment

The first set of data captures teaching candidates' score reports for the two the two TPAs approved in California for statewide use: the California Teaching Performance Assessment (CalTPA) and the educative Teaching Performance Assessment (edTPA). The score reports include all the TPA attempts by each candidate, including the subject area, institution, report date, total score and individual rubric scores, and whether the candidate passed or failed.[69] CalTPA is administered in two cycles, and these data also capture the cycle for each score report. These data include all score reports from September 1, 2018, to August 31, 2023.[70] As described in more detail in the sample section, this analysis focused on candidates who had TPA records between September 1, 2021, and August 31, 2023. Each candidate for the CalTPA and edTPA self-selects their teacher preparation program (TPP) when submitting their scores, and this institution information is also included in these data files.

The TPA score reports were used to capture two types of dependent variables in this analysis: (1) passing indicators and (2) overall TPA score. I created passing indicators to capture initial passing (i.e., did you pass on your first attempt?) and eventual passing (i.e., did you pass across all of your attempts?). For edTPA, initial passing was based on a single record and whether the candidate had a passing score on their first attempt. For CalTPA, there are two cycles of assessment, and the initial passing indicator identified whether a candidate passed both cycles on their first attempt for each cycle. On average, candidates who attempted both cycles tended to take the two cycles about 5 months apart. Some candidates never attempted cycle 2. In this analysis, candidates who took cycle 1 before January 1, 2023, but never attempted cycle 2 were counted as failing on their first attempt and failing across all attempts overall. Because of the timing of the data collection (TPA data were only available through August 31, 2023), candidates who took cycle 1 after January 1, 2023, but never attempted cycle 2 were excluded from this analysis of overall passing rates since they may not have had an opportunity to take cycle 2 before August 31, 2023.

For both assessment models, candidates can receive "condition codes" if their submission cannot be scored for a variety of different reasons (e.g., their submission is incomplete, the submitted video cannot be viewed or is of poor quality, their submitted materials do not correspond to the content area of their registration).[71] Over the 2-year period studied here, 4,104 CalTPA records (11.7% of all CalTPA records) and 518 edTPA records (5.2% of all edTPA records) had condition codes, and these records were excluded from this analysis. Thus, if a candidate received a condition code on their first attempt (and, therefore,

could not receive a score) but received a passing score on their second attempt, for the purposes of this analysis, the candidate was identified as passing on their first attempt. See Table A1 for examples of how candidate records were assessed for whether they initially or eventually passed.

Table A1. Example of How Teaching Performance Assessment (TPA) Records Were Assessed for Initial Passing

Candidate ID	Teaching Performance Assessment (TPA) model	Example record			Initial passing	Eventual passing
		Cycle	Attempt	Status		
A	CalTPA	1	1	Pass	No	Yes
		2	1	Not Pass		
		2	2	Pass		
B	CalTPA	1	1	Not Scoreable	Yes	Yes
		1	2	Pass		
		2	1	Pass		
C	CalTPA	1	1	Pass	Yes	Yes
		2	1	Pass		
D	CalTPA	1	1	Not Pass	No	No
		1	2	Not Scoreable		
		1	3	Not Pass		
E	edTPA	N/A	1	Not Pass	No	Yes
		N/A	2	Pass		
F	edTPA	N/A	1	Pass	Yes	Yes
G	edTPA	N/A	1	Not Scoreable	Yes	Yes
		N/A	2	Pass		
H	edTPA	N/A	1	Not Pass	No	No
		N/A	2	Not Pass		

Note: As depicted above, the California Teaching Performance Assessment (CalTPA) is administered in two cycles, while the educative Teaching Performance Assessment (edTPA) is administered in one cycle.

Source: Learning Policy Institute. (2024).

The second set of TPA measures captured the overall score(s) for each candidate since the underlying scores are also important indicators of candidate success. Prior research across multiple states has found that TPA scores themselves can be predictive of candidates' performance as teachers once they enter the classroom as measured by evaluations and, in some cases, student achievement.[72] The primary scoring measure captured the overall (total) score from a candidate's first attempt. For edTPA, I used the total score from a candidate's first attempt. For CalTPA, I calculated a candidate's first attempt for each

cycle and, if a candidate took both cycles, their overall score (summing the first scores across both cycles). All score-focused analyses were conducted separately for candidates taking the CalTPA and edTPA since each TPA assessment model uses different scales and scoring approaches.

Credential Information

The second set of data captured all credentials issued by the CTC, including specific information about the type of credential, the issue and expiration date, and—in certain cases—the institution that recommended the candidate for the credential. This data can be used to identify the specific credential sought by each candidate (i.e., multiple subject, single subject, education specialist). It can also differentiate between candidates who completed an internship program in which they completed preparation while serving as a teacher of record and those candidates completing a traditional preservice preparation pathway in which they completed preparation and clinical practice, including student teaching or a residency, before they became a teacher of record.

These data capture one key independent variable in the analysis: preparation pathway. Candidates who participated in internship programs must first obtain an initial intern credential that allows them to work as a teacher of record while completing preparation, and they then receive their preliminary credential once they have completed their preparation program and fulfilled all of the requirements for a preliminary credential. In this analysis, all candidates who have intern credentials are identified as participating in the internship pathway. Thus, all candidates who do not have an intern credential are categorized as participating in the traditional preservice pathway. While most of these candidates received a preliminary credential, there was a subset who received the certificate of clearance needed for student teaching or residency placement but never received a preliminary credential (these candidates were included in the analysis).

Program Completer Survey

Since 2016, the CTC has surveyed program completers about their preparation experiences when they apply for their preliminary teaching credential. This survey asks about overall perceptions of preparation, candidates' preparation for areas of teaching captured in California's Teaching Performance Expectations, and preparation supports and experiences. For example, completers are asked about clinical observation and feedback they received from their preparation program's staff, and they are asked about the level of support their program offered around the TPA. Multiple subject and education specialist candidates are also asked about exposure to opportunities to learn how to teach reading, writing, and math.

There were 19,530 program completers who responded to at least one non-demographic question on the program completer survey between September 1, 2021, and August 31, 2023. Although response rates cannot be directly calculated from the survey data, response rates can be estimated by comparing the number of responders to the number of preliminary credentials issued by the CTC to California-prepared teachers. The estimated response rate for the 2021–22 survey was 79%. Importantly, this survey is only fielded to candidates who have completed all requirements for their preliminary credential (including passing a TPA), so it does not capture the experience of candidates who did not fulfill all the requirements or decided not to apply for their preliminary credential.

The survey data were used to construct key independent variables in the analysis. These variables, and the underlying survey questions used to construct them, can be found in Table A2. These variables were measured at the program level rather than the individual level.[73] This analysis identified each program by the institution, credential area (i.e., multiple subject, single subject, education specialist), and preparation pathway (i.e., internship, traditional). For example, San Diego State University's multiple subject candidates who completed a preservice program are categorized into one program, San Diego State's multiple subject candidates who completed an internship program are considered to be in another program, and San Diego State's single subject candidates who completed a preservice program are considered to be in yet another program. Each measure averaged the survey responses for all program completers in order to capture the average experience from each program's candidates who completed their program and applied for the preliminary credential between September 1, 2021, and August 31, 2023.

The program completer surveys include numerous questions about preparation experiences, and not all of those questions were included in this report. For example, the survey asks completers to rate their program's overall effectiveness as well as the extent to which they felt prepared in the Teaching Performance Expectations, California's standards for beginning teachers. Program-level ratings constructed using these types of survey questions (capturing general perceptions about preparedness) were often predictive of the likelihood of passing a TPA, but these relationships were not discussed in this report because they do not point to any specific, actionable aspects of preparation. Other questions, such as the estimated number of hours in student teaching placements and the amount of clinical support from interns' mentor teachers, were not included in this report because the patterns between survey responses and TPA results from the program-level analysis did not align with patterns from prior individual-level analysis. Future analyses, at both the program level and individual level, will delve into many of these relationships in further detail.

Table A2. Survey Measures

Name of measure	Underlying survey question(s)	How program-level ratings were created
Clinical support	How often did preparation program faculty or staff communicate with you in person or by other means about your teaching practice? • Less than once per month • Once per month • Twice per month • Once per week • 2–3 times per week • Daily How often did your preparation program observe your classroom instruction during your supervised fieldwork? • Once or twice • 3–5 times • 6–10 times • 11–15 times • 16–20 times • More than 20 times How often did your preparation program provide feedback on your classroom instruction during your supervised fieldwork? • Once or twice • 3–5 times • 6–10 times • 11–15 times • 16–20 times • More than 20 times	At the individual candidate level, I first constructed a scale averaging across the three questions (1=Less than once per month/Once or twice; 6=Daily/More than 20 times). To construct the program-level average, I averaged all completer responses by institution-by-credential-by-pathway. Finally, I constructed a quartile that categorized programs within each credential-by-pathway group. For example, this variable categorized all multiple subject preservice programs into four groups based on their average completer response on clinical support.

Name of measure	Underlying survey question(s)	How program-level ratings were created
Sufficient clinical feedback	How often did your preparation program provide feedback on your classroom instruction during your supervised fieldwork? • Once or twice • 3–5 times • 6–10 times • 11–15 times • 16–20 times • More than 20 times	At the individual candidate level, I first constructed a binary indicator for completers reporting "sufficient" amount of feedback (i.e., more than 5 times). To construct the program-level average, I averaged all completer responses by institution-by-credential-by-pathway. Finally, I constructed a quartile that categorized programs within each credential-by-pathway group. For example, this variable categorized all multiple subject preservice programs into four groups based on their average completer response on sufficient clinical feedback.
Preparation in teaching literacy (Only measured for multiple subject and educational specialist programs)	In your teacher preparation program, how much opportunity did you have to do each of the following? • Learn ways to teach decoding skills • Learn ways to build student interest and motivation to read • Learn how to help students make predictions to improve comprehension • Learn how to support older students in learning to read • Learn ways to teach reading and writing to students at different stages or reading abilities • Learn how to activate students' prior knowledge • Listen to an individual child read aloud for the purpose of assessing his/her reading achievement • Plan and teach a guided reading lesson • Learn to teach students to organize their ideas prior to writing • Use student reading assessment results to address student needs and improve your teaching • Practice what you learned about teaching reading in your field experiences • Study state standards for reading/language arts • Study, critique, or adapt reading curriculum materials Answer choices for the above questions are: • None • Touched on it briefly • Spent time discussing or doing • Explored in some depth • Extensive opportunity	At the individual candidate level, I first constructed a scale averaging across the 13 questions (1=None; 5=Extensive opportunity). To construct the program-level average, I averaged all completer responses by institution-by-credential-by-pathway. Finally, I constructed a quartile that categorized programs within each credential-by-pathway group. For example, this variable categorized all multiple subject preservice programs into four groups based on their average completer response on opportunities to learn about teaching literacy.

Name of measure	Underlying survey question(s)	How program-level ratings were created
Preparation in teaching math (Only measured for multiple subject and educational specialist programs)	In your teacher preparation program, how much opportunity did you have to do each of the following? • Learn typical difficulties students have with place value • Learn typical difficulties students have with fractions • Use representations (e.g., geometric representation, graphs, number lines) to show explicitly why a procedure works • Prove that a solution is valid or that a method works for all similar cases • Study, critique, or adapt math curriculum materials • Learn how to facilitate math learning for students in small groups • Adapt math lessons for students with diverse needs and learning styles • Practice what you learned about teaching math in your field experience • Study national or state standards for mathematics • Review local district mathematics curriculum Answer choices for the above questions are: • None • Touched on it briefly • Spent time discussing or doing • Explored in some depth • Extensive opportunity	At the individual candidate level, I first constructed a scale averaging across the 10 questions (1=None; 5=Extensive opportunity). To construct the program-level average, I averaged all completer responses by institution-by-credential-by-pathway. Finally, I constructed a quartile that categorized programs within each credential-by-pathway group. For example, this variable categorized all multiple subject preservice programs into four groups based on their average completer response on opportunities to learn about teaching math.

Name of measure	Underlying survey question(s)	How program-level ratings were created
Teaching Performance Assessment (TPA) support	The following questions are related to how well your program prepared and supported you in developing your submission for the Teaching Performance Assessment (TPA) requirement: • How well did your teacher preparation program prepare you to complete the TPA in your content area? • How well did your teacher preparation program help you understand the purpose of the TPA? • How well did your teacher preparation program help you understand the specific TPA tasks? • How well did your teacher preparation program help you understand the TPA scoring rubrics? • How well did your teacher preparation program help you understand the TPA submission and scoring processes? • (If Applicable) If you were not successful in your first attempt at meeting the TPA requirement, how well did your program provide remediation to prepare you for resubmission? Answer choices for the above questions are: • Not at all • Poorly • Adequately • Well • Very well	At the individual candidate level, I first constructed a scale averaging across the six questions (1=Not at all; 5=Very well). To construct the program-level average, I averaged all completer responses by institution-by-credential-by-pathway. Finally, I constructed a quartile that categorized programs within each credential-by-pathway group. For example, this variable categorized all multiple subject preservice programs into four groups based on their average completer response on TPA support.

Source: Learning Policy Institute. (2024). Based on survey questions from the California Commission on Teacher Credentialing's program completer surveys.

In addition to examining the relationships between program-level ratings and TPA results, this analysis presented the overall survey responses from elementary and secondary program completers reporting on the extent to which their program supported them through the TPA process. There were six questions about TPA support on the CTC's program completer survey, and the descriptive results from these questions are presented in Table A3.

Table A3. Program Completer Responses to Questions Asking About Teaching Performance Assessment (TPA) Support

Response	All completers		Elementary completers				Secondary completers			
			Preservice completers		Internship completers		Preservice completers		Internship completers	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
How well did your teacher preparation program prepare you to complete the TPA in your content area?										
Not at all	278	2%	118	2%	31	2%	98	2%	31	2%
Poorly	1,257	9%	604	9%	164	12%	366	7%	123	10%
Adequately	3,343	23%	1,651	24%	364	26%	1,013	19%	315	24%
Well	4,187	28%	1,898	28%	396	29%	1,540	29%	353	27%
Very well	5,644	38%	2,493	37%	420	31%	2,265	43%	466	36%
How well did your teacher preparation program help you understand the purpose of the TPA?										
Not at all	326	2%	136	2%	40	3%	114	2%	36	3%
Poorly	1,185	8%	580	9%	133	10%	361	7%	111	9%
Adequately	3,466	24%	1,697	25%	385	28%	1,080	20%	304	24%
Well	4,136	28%	1,874	28%	391	28%	1,524	29%	347	27%
Very well	5,597	38%	2,475	37%	432	31%	2,201	42%	489	38%
How well did your teacher preparation program help you understand the specific TPA tasks?										
Not at all	268	2%	123	2%	29	2%	93	2%	23	2%
Poorly	1,274	9%	617	9%	163	12%	383	7%	111	9%
Adequately	3,349	23%	1,666	25%	356	26%	1,017	19%	310	24%
Well	4,063	28%	1,822	27%	393	29%	1,493	28%	355	28%
Very well	5,741	39%	2,527	37%	436	32%	2,293	43%	485	38%
How well did your teacher preparation program help you understand the TPA scoring rubrics?										
Not at all	294	2%	127	2%	36	3%	101	2%	30	2%
Poorly	1,160	8%	572	8%	149	11%	343	6%	96	7%
Adequately	3,361	23%	1,690	25%	357	26%	1,016	19%	298	23%
Well	3,968	27%	1,809	27%	382	28%	1,431	27%	346	27%
Very well	5,902	40%	2,551	38%	449	33%	2,389	45%	513	40%
How well did your teacher preparation program help you understand the TPA submission and scoring processes?										
Not at all	325	2%	152	2%	40	3%	98	2%	35	3%
Poorly	1,153	8%	572	8%	148	11%	338	6%	95	7%
Adequately	3,304	23%	1,655	25%	351	26%	997	19%	301	23%
Well	4,051	28%	1,868	28%	389	28%	1,446	28%	348	27%
Very well	5,826	40%	2,497	37%	448	33%	2,378	45%	503	39%

Response	All completers		Elementary completers				Secondary completers			
			Preservice completers		Internship completers		Preservice completers		Internship completers	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
(If Applicable) If you were not successful in your first attempt at meeting the TPA requirement, how well did your program provide remediation to prepare you for resubmission?										
Not at all	402	5%	179	5%	45	5%	136	5%	42	6%
Poorly	553	7%	262	8%	87	10%	144	6%	60	8%
Adequately	1,659	22%	797	23%	224	26%	464	18%	174	24%
Well	1,948	26%	869	25%	233	27%	670	27%	176	24%
Very well	2,981	40%	1,311	38%	279	32%	1,104	44%	287	39%

Note: This analysis includes completers who responded to a multiple subject (i.e., elementary) or single subject (i.e., secondary) program completer survey between September 1, 2021, and August 31, 2023, excluding completers who did not self-report their preparation pathway.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Sample

There were three main inclusion criteria for this analysis. First, this analysis only included candidates who appear in the CTC's certification database. The CTC annually receives all CalTPA and edTPA records associated with a California institution and then matches those records to their certification database. Candidates appear in the certification database if they have ever applied for any document or certification from the CTC. This includes the certificate of clearance that is required if you are enrolled in a California preparation program prior to your student teaching or any other practicum/field-based experiences.[74] Candidates are only assigned a unique identifier if their record can be matched. There were a small number of records in CalTPA and edTPA that could not be matched to the certification database and were excluded.

Second, this analysis focused on candidates whose last attempt at the TPA occurred between September 1, 2021, and August 31, 2023, excluding candidates who received pandemic-era deferrals to complete a TPA after receiving their preliminary teaching credential. California, like many states, made changes to the credential and assessment rules during the COVID-19 pandemic. Starting in May 2020, candidates could be recommended for their preliminary credential even if they had not passed a TPA, with the expectation that candidates would need to eventually pass a TPA to be eligible for their clear teaching credential.[75] The California legislature later passed a bill permanently exempting these candidates who received their preliminary credential with a TPA deferral as long as they completed an approved teacher induction program and completed 2 years of service with satisfactory teacher evaluations. The CTC's credential file captures which candidates received the pandemic-era deferrals, so they were excluded from the analysis.

This analysis further limited the sample for candidates who took the CalTPA in 2023. Since there are two cycles of the assessment, I did not want to include candidates who have not had sufficient opportunity to take both cycles of CalTPA. As a result, among candidates who took the first cycle of the CalTPA after January 1, 2023, I restricted the sample to only those candidates who have at least attempted the second cycle. Table A4 shows the characteristics of candidates in the sample.

For program-level analyses, I limited the sample to programs that had at least five candidates who took either TPA during the study period. There were 263 programs that had at least five candidates take the CalTPA or edTPA between September 1, 2021, and August 31, 2023. Among program-level analyses including program completer surveys, I also excluded programs that had fewer than five program completers respond to the survey.

Table A4. Characteristics of Teaching Candidates in the Analytic Sample

	All candidates		CalTPA candidates		edTPA candidates	
Sample characteristics	*N*	%	*N*	%	*N*	%
Credential type						
• Multiple subject (i.e., elementary)	9,367	51%	5,947	54%	3,420	46%
• Single subject (i.e., secondary)	8,747	47%	4,960	45%	3,787	51%
• Education specialist (i.e., special education)	341	2%	185	2%	156	2%
Preparation pathway						
• Preservice preparation	14,644	79%	8,248	74%	6,396	87%
• Internship	3,811	21%	2,844	26%	967	13%
Institution type						
• California State University system	9,014	49%	5,771	52%	3,243	44%
• University of California system	1,398	8%	102	1%	1,296	18%
• Private institution of higher education	7,506	41%	4,780	43%	2,726	37%
• Local education agency	527	3%	431	4%	96	1%
Teaching Performance Assessment (TPA) participation						
• Analytic sample for passing rates	18,455	100%	11,092	100%	7,363	100%
• Passed on first attempt	13,816	75%	7,645	69%	6,171	84%
• Passed across all attempts	16,778	91%	9,876	89%	6,902	94%
TPA overall scores on first attempt			**Mean**	**SD**	**Mean**	**SD**
• All candidates			46.5	5.7	48.8	7.3
• All preservice candidates			46.8	5.7	49.3	7.1
• All intern candidates			46.0	5.9	45.5	7.6

Note: The California Teaching Performance Assessment (CalTPA) is administered in two cycles, while the educative Teaching Performance Assessment (edTPA) is administered in one cycle. For the CalTPA, the overall scores sum the scores on cycle 1 and cycle 2 and are only reported for candidates who took both cycles.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Methods

This was a descriptive analysis that focused on understanding whether TPA results varied alongside differences in preparation experiences for candidates. For the first set of analyses, I focused on differences in TPA results for candidates based on their preparation pathway (i.e., preservice or internship) as categorized using the credential data. I examined differences by pathway overall as well as differences across credentials (i.e., elementary vs. secondary) and TPA models (i.e., CalTPA and edTPA).

The second set of analyses examined differences in TPA results based on completer-reported experiences from their preparation, as reported on the CTC's program completer survey. In this analysis, I first examined descriptive differences across program ratings on certain preparation experiences (i.e., clinical support, opportunities to learn about teaching literacy) by examining candidate-level TPA results (i.e., do candidates from programs in the lowest quartile of program ratings on clinical support have different TPA results than candidates from programs in the highest quartile of program ratings?). Table A5 shows the descriptive differences in passing rates across programs with different program-level ratings.

In addition to the candidate-level descriptive analyses, I explored variation at the program level in initial and eventual passing rates. As part of this analysis, I examined patterns in TPA records and survey data for the programs with the lowest passing rates and compared those patterns with the full sample of programs. These results are shown in Table A6.

Finally, I conducted a series of regression analyses that predicted the likelihood of TPA passage and overall scores based on a series of predictors capturing the preparation pathway of individual candidates and program-level ratings of preparation experiences. Given differences in the descriptive results, I ran one combined model and then ran separate models for preservice and internship candidates. Models that examine the likelihood of passing use logistic regression and used the same general framework:

$$(1)\ Prob(Pass_{ip}) = \beta_0 + \beta_1 Program_p + \beta_2\ Rating_p + \beta_3 Model_i + \beta_4 Year_i + \varepsilon_i$$

The probability of passing for candidate *i* in program *p* is modeled as a function of a fixed intercept, the candidate's preparation program type $(Program_p)$ and program ratings $(Rating_p)$. The preparation program type is captured by a series of binary indicators for the combination of credential type (multiple subject, single subject, education specialist) and preparation pathway (preservice or internship). All models include an indicator for the assessment model (i.e., CalTPA vs. edTPA) $(Model_i)$, the year of the candidates' final TPA record $(Year_i)$, and an idiosyncratic error term. All models use robust standard errors. The coefficients were expressed in odds ratios, and the lowest-rated group of programs always served as the comparison group. The program-level ratings included in this analysis were often moderately to highly correlated, and not all ratings were available for all programs. As a result, each rating was entered in a separate regression with the covariates shown in equation 1. The regression results from the logistic regression models are shown in Table A7.

I also used a separate set of linear regression models to examine whether program-level ratings were predictive of TPA scores using the same set of covariates described above. Some models examined the overall score from the first attempt, while others examined the best overall score for the candidate

(patterns are similar across both types of scores). Since CalTPA and edTPA use different sets of rubrics and scoring criteria, these models were run separately for candidates taking each assessment model. The regression results from these models are shown in Table A8.

As noted in the report, it is important to consider the strengths and limitations of these approaches when assessing the findings. In terms of strengths, this analysis examined the TPA outcomes for a large, diverse set of teaching candidates and programs. This sample allows for deeper exploration of differences in TPA outcomes across different types of preparation programs (e.g., preservice vs. internship programs). Most prior research in this area has focused on analyses of single programs or groups of similar programs. This analysis connected TPA outcomes with specific aspects of preparation as reported directly by program completers. These data allow an examination of the broader relationships between preparation experiences and TPA outcomes as well as how these relationships may vary across preparation pathways. Given the consequential nature of TPA passage for candidates and the current requirements for California programs to support candidates through the TPA process, this analysis can offer some specific insights into types of preparation experiences that are predictive of candidates' success on the TPA.

However, there are notable limitations in what the program completer survey and credential data can capture, as noted in the main report, especially given that individual-level survey responses cannot be connected to TPA records for any completers in the California State University system and for candidates who had not been recommended for their preliminary credential as of August 31, 2023. The use of program-level ratings in this analysis offers insight into the average experience of program completers rather than the specific individual experiences of any given teaching candidate. To build on this statewide analysis, I plan to conduct future analyses using a subset of these data to explore associations between TPA outcomes and candidates' background and specific experiences in preparation at the individual candidate level.

Table A5. Comparing Programs by Eventual Passing Rates

Characteristics	Programs with eventual passing rates below 80% (*N*=35 programs)		All other programs (*N*=228 programs)		Statistically significant difference?
	N	%	*N*	%	
Frequencies of program characteristics					
Credential area:					
• Elementary	24	69%	95	42%	*
• Secondary	9	26%	111	49%	
• Special education	2	6%	22	10%	
Preparation pathway:					
• Internship	17	49%	147	64%	†
• Preservice	18	51%	81	36%	

Characteristics	Programs with eventual passing rates below 80% (*N*=35 programs) *N*	%	All other programs (*N*=228 programs) *N*	%	Statistically significant difference?
Institution type:					
• California State University system	8	31%	73	35%	
• University of California system	1	4%	20	9%	
• Private institution of higher education	13	50%	107	51%	
• Local education agency	4	15%	11	5%	
Program size:					
• Under 50 candidates	35	100%	143	63%	
• 50–99 candidates	0	0%	44	19%	**
• 100–199 candidates	0	0%	27	12%	
• 200 or more candidates	0	0%	14	6%	
Average of TPA measures					
Average TPA passing rates:	**Mean**	**SD**	**Mean**	**SD**	
• Initial passing rate	48%	14.9	77%	15.0	**
• Eventual passing rate	68%	11.2	93%	0.056466	
Quartile measures					
Quartiles based on program-level survey ratings:					
• Lowest quartile for TPA support	10	42%	48	25%	
• Lowest quartile for sufficient clinical feedback	5	19%	56	26%	
Elementary and special education programs only:					
• Lowest quartile for preparation to teach literacy	8	40%	27	25%	
• Lowest quartile for preparation to teach math	8	40%	32	29%	

Notes: This analysis includes 263 preparation programs that had at least five candidates take the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. For survey measures, programs must have had at least five respondents on the program completer survey to be included in this analysis. Chi-squared tests were used to test for statistical significance in the frequencies of program characteristics, while t-tests were used to test for statistical significance in the mean differences in TPA and survey measures. Symbols illustrate statistical significance, with † indicating $p < .10$, * indicating $p < .05$, and ** indicating $p < .01$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Table A6. Descriptive Statistics by Program-Level Ratings Quartiles

Program-level ratings	Full sample				Preservice sample				Internship sample			
	Initial passing		Eventual passing		Initial passing		Eventual passing		Initial passing		Eventual passing	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
TPA support (elementary and secondary candidates only)												
Lowest quartile (*N*=60 programs)	4,488	70%	4,488	88%	3,530	71%	3,530	88%	3,530	64%	958	87%
Second quartile (*N*=52 programs)	4,516	72%	4,516	91%	3,592	73%	3,592	91%	3,592	65%	924	88%
Third quartile (*N*=53 programs)	4,832	79%	4,832	92%	4,095	80%	4,095	93%	4,095	71%	737	90%
Highest quartile (*N*=55 programs)	3,997	79%	3,997	93%	3,107	81%	3,107	94%	3,107	69%	890	91%
Preparation in literacy (elementary and special education candidates only)												
Lowest quartile (*N*=37 programs)	2,334	66%	2,334	86%	1,822	67%	1,822	86%	512	62%	512	86%
Second quartile (*N*=34 programs)	3,137	70%	3,137	89%	2,322	73%	2,322	90%	815	61%	815	87%
Third quartile (*N*=37 programs)	2,724	70%	2,724	89%	2,457	72%	2,457	89%	267	60%	267	88%
Highest quartile (*N*=33 programs)	1,319	81%	1,319	95%	1,158	83%	1,158	95%	161	66%	161	91%
Preparation in math (elementary and special education candidates only)												
Lowest quartile (*N*=41 programs)	2,389	65%	2,389	87%	1,528	66%	1,528	87%	861	62%	861	87%
Second quartile (*N*=33 programs)	3,099	73%	3,099	90%	2,735	76%	2,735	91%	364	54%	364	82%
Third quartile (*N*=33 programs)	2,419	70%	2,419	88%	2,119	71%	2,119	88%	300	66%	300	89%
Highest quartile (*N*=34 programs)	1,607	75%	1,607	92%	1,377	77%	1,377	92%	230	66%	230	91%
Clinical support												
Lowest quartile (*N*=66 programs)	6,330	76%	6,330	91%	5,839	76%	5,839	91%	491	75%	491	93%
Second quartile (*N*=60 programs)	5,189	73%	5,189	90%	3,849	74%	3,849	91%	1,340	69%	1,340	88%
Third quartile (*N*=64 programs)	3,687	74%	3,687	91%	2,804	77%	2,804	91%	883	66%	883	89%
Highest quartile (*N*=63 programs)	2,933	78%	2,933	93%	2,031	85%	2,031	95%	902	64%	902	87%
Sufficient clinical feedback												
Lowest quartile (*N*=66 programs)	5,981	73%	5,981	90%	4,690	74%	4,690	90%	1,291	69%	1,291	89%
Second quartile (*N*=61 programs)	4,244	73%	4,244	90%	3,342	75%	3,342	90%	902	68%	902	88%
Third quartile (*N*=60 programs)	5,185	77%	5,185	92%	4,414	78%	4,414	92%	771	70%	771	90%
Highest quartile (*N*=66 programs)	2,729	79%	2,729	94%	2,077	84%	2,077	96%	652	62%	652	87%

Note: The analysis includes candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Table A7. Logistic Regression Results From Models Predicting Passing on Teaching Performance Assessment (TPA)

	Full sample		Preservice sample		Internship sample	
	Dependent variable: Initial passing	Dependent variable: Eventual passing	Dependent variable: Initial passing	Dependent variable: Eventual passing	Dependent variable: Initial passing	Dependent variable: Eventual passing
Panel A: Program-level ratings on TPA support (compared to lowest quartile) Elementary and secondary candidates only						
Second quartile	1.06	1.34***	1.03	1.39***	1.10	1.14
	(0.05)	(0.09)	(0.06)	(0.11)	(0.11)	(0.16)
Third quartile	1.42***	1.55***	1.40***	1.57***	1.31*	1.28
	(0.07)	(0.11)	(0.08)	(0.13)	(0.14)	(0.20)
Highest quartile	1.44***	1.68***	1.47***	1.69***	1.34**	1.57**
	(0.08)	(0.13)	(0.09)	(0.16)	(0.14)	(0.24)
N	17,833	17,833	14,324	14,324	3,509	3,509
Panel B: Program-level ratings on preparation for teaching literacy (compared to lowest quartile) Elementary and special education candidates only						
Second quartile	1.00	1.17	0.97	1.17	1.01	1.15
	(0.06)	(0.10)	(0.07)	(0.12)	(0.12)	(0.19)
Third quartile	1.18**	1.25*	1.24**	1.25*	0.83	1.25
	(0.08)	(0.11)	(0.09)	(0.12)	(0.13)	(0.28)
Highest quartile	1.27**	1.93***	1.30**	1.97***	1.10	1.71
	(0.11)	(0.27)	(0.13)	(0.32)	(0.22)	(0.53)
N	9,514	9,514	7,759	7,759	1,755	1,755
Panel C: Program-level ratings on preparation for teaching math (compared to lowest quartile) Elementary and special education candidates only						
Second quartile	1.00	0.99	1.13	1.11	0.67**	0.65*
	(0.07)	(0.09)	(0.09)	(0.12)	(0.09)	(0.11)
Third quartile	0.94	0.90	0.96	0.89	1.03	1.20
	(0.06)	(0.08)	(0.07)	(0.09)	(0.15)	(0.25)
Highest quartile	1.28**	1.41**	1.43***	1.47**	0.91	1.30
	(0.10)	(0.16)	(0.13)	(0.19)	(0.15)	(0.33)
N	9,514	9,514	7,759	7,759	1,755	1,755

	Full sample		Preservice sample		Internship sample	
	Dependent variable: Initial passing	Dependent variable: Eventual passing	Dependent variable: Initial passing	Dependent variable: Eventual passing	Dependent variable: Initial passing	Dependent variable: Eventual passing
Panel D: Program-level ratings on clinical support (compared to lowest quartile)						
Second quartile	0.99	0.98	0.93	1.00	0.94	0.53**
	(0.04)	(0.06)	(0.05)	(0.07)	(0.13)	(0.12)
Third quartile	0.95	0.94	0.92	0.88	0.85	0.64*
	(0.05)	(0.07)	(0.05)	(0.07)	(0.12)	(0.14)
Highest quartile	1.05	1.12	1.11	1.30*	0.77	0.51**
	(0.06)	(0.10)	(0.08)	(0.16)	(0.11)	(0.11)
N	18,139	18,139	14,523	14,523	3,616	3,616
Panel E: Program-level ratings on sufficient clinical feedback (compared to lowest quartile)						
Second quartile	1.07	1.02	1.14*	1.08	0.90	0.89
	(0.05)	(0.07)	(0.06)	(0.08)	(0.09)	(0.12)
Third quartile	1.11*	1.20**	1.13*	1.22**	0.98	1.11
	(0.05)	(0.08)	(0.06)	(0.09)	(0.10)	(0.17)
Highest quartile	1.21***	1.62***	1.37***	2.18***	0.81*	0.90
	(0.07)	(0.15)	(0.10)	(0.28)	(0.08)	(0.13)
N	18,139	18,139	14,523	14,523	3,616	3,616

Notes: Coefficients are expressed in odds ratios. These regression models estimate differences in the likelihood of passing the teaching performance assessment (TPA) by program-level ratings in different areas based on completers' responses on the California Commission on Teacher Credentialing's program completer survey. Each model includes controls for credential area (elementary, secondary, special education), preparation pathway (preservice, internship), and assessment year. The analysis includes candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have either taken both cycles of the TPA or taken the first cycle before January 1, 2023, to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis. Standard errors are in parentheses. Asterisks illustrate statistical significance, with * indicating $p < .05$, ** indicating $p < .01$, and *** indicating $p < .001$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Table A8. Regression Results From Models Predicting First Attempt Scores From Teaching Performance Assessment (TPA)

	California Teaching Performance Assessment (CalTPA)			Educative Teaching Performance Assessment (edTPA)		
	Full sample	Preservice candidates	Intern candidates	Full sample	Preservice candidates	Intern candidates
Panel A: Program-level ratings on TPA support (compared to lowest quartile) Elementary and secondary candidates only						
Second quartile	-0.22	-0.38*	0.30	1.23***	1.21***	1.30*
	(0.15)	(0.17)	(0.31)	(0.22)	(0.23)	(0.59)
Third quartile	0.59***	0.63***	0.41	1.67***	1.74***	0.67
	(0.15)	(0.16)	(0.32)	(0.21)	(0.22)	(0.78)
Highest quartile	0.51***	0.55**	0.48	1.56***	1.62***	1.16*
	(0.16)	(0.18)	(0.32)	(0.22)	(0.23)	(0.59)
N	9,940	7,484	2,456	7,141	6,268	873
Panel B: Program-level ratings on preparation for teaching literacy (compared to lowest quartile) Elementary and special education candidates only						
Second quartile	-0.43*	-0.60**	-0.36	1.81***	1.71***	2.20**
	(0.17)	(0.21)	(0.32)	(0.31)	(0.33)	(0.80)
Third quartile	0.21	0.47**	-1.50***	2.51***	2.41***	2.66**
	(0.17)	(0.18)	(0.45)	(0.33)	(0.36)	(0.91)
Highest quartile	-0.02	0.39	-1.17*	1.94***	1.79***	3.64***
	(0.26)	(0.30)	(0.51)	(0.32)	(0.35)	(1.03)
N	5,453	4,127	1,326	3,545	3,236	309
Panel C: Program-level ratings on preparation for teaching math (compared to lowest quartile) Elementary and special education candidates only						
Second quartile	-0.25	-0.13	-0.30	1.87***	2.28***	-1.96
	(0.17)	(0.20)	(0.36)	(0.39)	(0.43)	(1.02)
Third quartile	-0.05	0.13	-0.51	1.51***	1.62***	3.06**
	(0.18)	(0.20)	(0.36)	(0.41)	(0.45)	(0.99)
Highest quartile	0.75***	1.15***	-0.88*	1.68***	1.91***	0.83
	(0.19)	(0.22)	(0.44)	(0.41)	(0.47)	(0.89)
N	5,453	4,127	1,326	3,545	3,236	309

	California Teaching Performance Assessment (CalTPA)			Educative Teaching Performance Assessment (edTPA)		
	Full sample	Preservice candidates	Intern candidates	Full sample	Preservice candidates	Intern candidates
Panel D: Program-level ratings on clinical support (compared to lowest quartile)						
Second quartile	-0.46***	-0.55***	0.12	0.56**	0.68***	-0.04
	(0.13)	(0.14)	(0.58)	(0.19)	(0.21)	(0.56)
Third quartile	-0.67***	-0.55**	-0.52	0.24	0.31	0.07
	(0.16)	(0.17)	(0.59)	(0.19)	(0.20)	(0.57)
Highest quartile	-1.04***	-1.16***	-0.56	0.36	0.50**	-0.92
	(0.21)	(0.29)	(0.59)	(0.18)	(0.19)	(0.70)
N	10,091	7,581	2,510	7,291	6,369	922
Panel E: Program-level ratings on sufficient clinical feedback (compared to lowest quartile)						
Second quartile	-0.10	0.00	-0.46	0.43*	0.58*	-0.15
	(0.14)	(0.15)	(0.31)	(0.21)	(0.23)	(0.49)
Third quartile	0.07	0.10	-0.08	0.16	0.25	-0.43
	(0.14)	(0.16)	(0.30)	(0.18)	(0.19)	(0.68)
Highest quartile	-0.88***	-0.87***	-0.99***	1.09***	1.12***	1.43*
	(0.19)	(0.24)	(0.30)	(0.19)	(0.20)	(0.72)
N	10,091	7,581	2,510	7,291	6,369	922

Note: These regression models estimate the association between the first attempt score on each teaching performance assessment (TPA) and program-level ratings in different areas based on completers' responses on the California Commission on Teacher Credentialing's program completer survey. Each model includes controls for credential area (elementary, secondary, special education), preparation pathway (preservice, internship), and assessment year. The analysis includes candidates who took the CalTPA or edTPA between September 1, 2021, and August 31, 2023, excluding candidates who received a deferral to take the TPA after receiving their preliminary credential. Candidates for CalTPA must have taken both cycles to be included. Programs must have had at least five respondents on the program completer survey to be included in this analysis. Standard errors are in parentheses. Asterisks illustrate statistical significance, with * indicating $p < .05$, ** indicating $p < .01$, and *** indicating $p < .001$.

Source: Learning Policy Institute analysis of California Commission on Teacher Credentialing data. (2024).

Endnotes

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47. The program completer survey is administered differently for program completers who attended a preparation program within the California State University (CSU) system. For completers from CSU, their survey responses are anonymous and cannot be linked to their other data. For completers from all other campuses (University of California campuses, private/independent institutions of higher education, and local education agencies), program survey results are confidential but can be linked to their other candidate information through a unique identifier. Since approximately 70% of residents statewide attend programs in the California State University system and these candidates cannot be included in this analysis, these patterns are only suggestive of potential differences, and further research is needed to better understand the TPA outcomes for residents.

48. Of all secondary candidates who took a TPA, 49% attended a California State University program, 38% attended a private/independent institution of higher education, 10% attended a University of California program, and 3% attended a program run by a local education agency. Among secondary candidates who took but never passed a TPA (i.e., "non-passers"), 42% attended a California State University program, 50% attended a private/independent institution of higher education, 4% attended a University of California program, and 4% attended a program run by a local education agency. Of the secondary candidates who took a TPA, 78% were preservice candidates and 22% were intern candidates, while 69% of non-passers were preservice candidates and 31% were intern candidates. Of the secondary candidates who took a TPA, 25% attended programs that had fewer than 50 secondary candidates take a TPA during this 2-year period, while 31% of non-passers attended these smaller programs.

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54. Special education candidates were required to take a TPA starting in the 2022–23 academic year, but the program completer survey for special education candidates does not yet include questions about TPA support.

55. These program ratings are created by averaging all completers' responses from a given preparation program (e.g., all completers from San Diego State's secondary preservice program) across all of the TPA support questions. See Technical Appendix for further details.

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69. The candidate identifiers in the TPA records are based on whether the candidate appears in the CTC's credential database. There are TPA records for candidates who do not appear in the CTC credential database and, therefore, are not assigned a unique identifier. To complete student teaching or serve as a teacher of record in California's public schools, you must have received a certificate of clearance from the CTC. Candidates from California TPPs who took a TPA but never appeared in the CTC credential database may be preparing to teach out of state. These candidates were excluded from this analysis.

70. California used performance assessments prior to September 2018, but the CTC only began capturing TPA scores in a centralized data system starting on September 1, 2018. Prior to that date, individual TPPs certified that their candidates had passed the TPA.

71. For more on "not scoreable" records for CalTPA, see: California Commission on Teacher Credentialing. (2023). *CalTPA submission requirements and conditions codes*. https://www.ctcexams.nesinc.com/TestView.aspx?f=CACBT_SubmissionRequirementsConditionCodes_CalTPA.html. For more on "not scoreable" records for edTPA, see: Pearson Education. (2022). *edTPA submission requirements and condition codes*. https://www.edtpa.com/content/docs/edtpasubmissionrequirements.pdf

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73. There are two main reasons why the survey variables are constructed at the program level rather than at the individual level. First, not all candidates who take the TPA end up completing their program and applying for their preliminary credential (and thus not completing the survey). Second, the California State University (CSU) system administers its program completer survey anonymously rather than confidentially (they use the same questions as the CTC's program completer survey), so the survey data from all program completers from the CSU system cannot be linked at the individual level.

74. California Commission on Teacher Credentialing. (2023). *Certificate of clearance (CL-900)*. https://www.ctc.ca.gov/credentials/leaflets/certificate-of-clearance-(cl-900)

75. California Commission on Teacher Credentialing. (2021). *Program sponsor alert No. 21-08: 2021–2022 State Budget Act extends testing flexibilities for candidates impacted by continuing COVID-19 pandemic*. https://www.ctc.ca.gov/docs/default-source/educator-prep/ps-alerts/2021/psa-21-08.pdf?sfvrsn=64c2ab1_4; Executive Department of the State of California. (2020). *Executive order N-66-20*. https://www.gov.ca.gov/wp-content/uploads/2020/05/5.29.20-EO-N-66-20.pdf

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