



PERFORMANCE ASSESSMENT CASE STUDY SERIES

Using Performance Assessments to Support Student Learning

How District Initiatives Can Make a Difference

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Marisa Saunders, and Charlie Thompson

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Executive Summary

Across the country, educators need ways to assess student learning that can also support students' higher-order thinking skills, help improve teachers' instructional practices, and ultimately allow students to demonstrate college and career readiness through a culminating assessment—such as a graduate capstone or senior portfolio defense. In California, some of these educators participate in the California Performance Assessment Collaborative (CPAC), a network that supports the implementation of high-quality performance assessments. Performance assessments are part of a robust assessment system. They require students to show what they know, rather than select answers from predetermined options on a multiple-choice test. Examples of performance assessments include composing a few sentences in an open-ended short response, developing a thorough analysis in an essay, conducting a laboratory investigation, curating a portfolio of student work, and completing an original research paper.

A substantial body of evidence shows performance assessments are a strategy to improve educational outcomes, but relatively little research examines the key conditions needed to support the implementation of high-quality performance assessments at the district, school, and classroom levels. The current study builds upon the work of CPAC to address this issue by documenting performance assessment initiatives in three districts:

1. **Los Angeles Unified School District (Los Angeles Unified)**, which supports a model wherein a growing number of 12th-grade students in Linked Learning pathways (a program of study that integrates a college preparatory curriculum with career and technical education and student supports) defend a portfolio of their work.
2. **Oakland Unified School District (Oakland Unified)**, which encourages 12th-grade students to complete and present a graduate capstone (an original research project) prior to graduation.
3. **Pasadena Unified School District (Pasadena Unified)**, which requires all 12th-grade students to defend a portfolio of their work in order to graduate.

While these districts each have a unique approach, all are committed to assessing student learning in a meaningful way that is aligned to the outcomes they hope all students will achieve by graduation. A series of district-level case studies accompanies this cross-cutting report.

Key Conditions

In this study, we investigated how districts and schools can build systems and structures for developing and implementing performance assessment initiatives across multiple sites. Our analysis took into account educator interviews, teacher and student focus groups, observations of student presentations, and district administrative data and documents. The report shows that district performance assessment initiatives can contribute to improving teachers' instructional practices and students' learning outcomes, provided that strong supports are in place for participating students and teachers.

Foundational policies and practices related to performance assessments

Although each district took a different approach to policies supporting performance assessments, the common link across all three was some sort of formal commitment in place to legitimize the work. These policies not only outlined high-level expectations related to the performance assessment initiative, but also established a vision for why this new approach is valuable. They also signaled the importance of the initiative to educators within the districts, who faced many competing priorities. For example, Pasadena Unified and Oakland Unified have board-approved graduation requirements for students to assemble and present a portfolio of their work (in Pasadena) or complete a research project (in Oakland). By contrast, Los Angeles Unified has a structured onboarding process for new Linked Learning pathways, including a commitment that all 12th-grade students will assemble and present a portfolio of work.

Key starting conditions in place

Three key starting conditions were important when introducing performance assessments within the districts: (1) technical assistance, (2) opportunities to observe performance assessments in action, and (3) a strategy to develop and scale performance assessments. Technical assistance, including professional learning supports, played an important role in all three districts. For example, each district worked closely with technical assistance providers to develop trainings, shared rubrics, and related resources. Opportunities to observe performance assessments also played an important role across the districts, in terms of educating stakeholders, garnering buy-in, and ultimately seeking shared ownership of the work. Finally, in all three districts, a strategy to develop and scale performance assessments started with a clear vision for how students should experience the process and then evolved organically in response to schools' needs.

Supportive state and local policy and practice environment

At both the state and local levels, a supportive policy and practice environment played an important role. This included the focus on deeper learning competencies in the Common Core State Standards and the Smarter Balanced Assessments and the shift away from past high-stakes assessments with the suspension of the California High School Exit Exam. It also included efforts to align education with the changing nature of the workforce and society through the funding of career and technical education initiatives, such as California Pathway Academies and the California Career Pathways Trust, as well as Linked Learning pilots at the state and local levels. These policy changes created opportunities in all three districts to focus on deeper learning competencies and assess student learning in an innovative way.

High-quality professional learning opportunities

In all three districts, central office staff carefully planned for and organized professional learning opportunities focused on the district performance assessment initiatives. Calibration of expectations for student work and scoring practices among teachers played a central role in these sessions. In many cases, these sessions were opt-in by nature. In Los Angeles Unified and Oakland Unified, educators could participate in a community of practice by attending a multipart sequence of sessions throughout the school year.

Strong teacher leadership, support, and recognition

Across the three districts, we observed teachers and other staff taking on a variety of responsibilities to support the implementation of district performance assessment initiatives. For example, teachers scheduled student defense presentations, recruited judges for the presentations, and developed systems and supports for students. This teacher leadership was a vital source of support for school-level implementation. In many cases, teachers received extra planning time and compensation to acknowledge their efforts. It is important to note, though, that additional planning time, more compensation for extra hours worked, and additional staff positions to share in the work still emerged as ongoing needs in all three districts. The extent to which these added supports were available varied across sites, depending on the size and organizational structure of the school as well as the extent of support from school administrators.

Flexibility for instructional leaders to determine student supports

Across all three districts, educators expressed the importance of allowing instructional leaders at each school—including principals, coaches, and lead teachers—to adapt the implementation of the performance assessment process to the needs of their students and community. Although teachers are often the driving force behind successful implementation of district performance assessment initiatives, it is school administrators who have decision-making power about how to allocate resources (including time and money) to support this work at the site level. At the same time, central office staff played a key role in supporting school-level implementation and ensuring equitable access to the performance assessment process for all student groups.

Outcomes for Students and Teachers

This study examined students' and educators' perceptions of outcomes related to participation in their district performance assessment initiatives. We found that (1) students experienced expanded opportunities to demonstrate deeper learning competencies—including improved communication and presentation skills; greater confidence in college and career preparation; and growth in social-emotional skills such as perseverance, creative problem-solving, and a growth mindset; and (2) teachers reported an increased focus on alignment among curriculum, instruction, and assessment across subjects and grade levels; continuous reflection on and improvement of their instructional practice; more positive relationships with their students; and closer collaboration with their colleagues.

Lessons Learned and Recommendations

Finally, we consider what lessons can be learned from the three districts about their performance assessment work, and we present associated recommendations to district leaders and state policymakers.

- **Lesson 1: Performance assessments can positively influence teachers' instructional practice and students' learning outcomes.** The students and educators we spoke with reported a number of positive outcomes based on their experience with the performance assessment initiative in their district. These outcomes included opportunities to build

close teacher–student relationships; to support students in developing and demonstrating deeper learning competencies, social-emotional skills, and college and career readiness; and to encourage teachers to collaboratively reflect on and shift their instructional practice.

- **Recommendation for district leaders:** To achieve these types of outcomes as part of a balanced system of assessment, consider implementing or expanding performance assessments that focus on rigorous academics, develop social-emotional skills, increase college and career readiness, build relationships, and help teachers improve their instructional practice.
- **Lesson 2: A clear, well-communicated vision—grounded in a shared definition of what students should know and be able to do—can support implementation.** In our case study districts, when implementation went well, educators started with a clear and shared vision for what students should know and be able to do. This vision was accompanied by consistent and effective communications about the effort. A collaboratively developed graduate profile can provide a foundation for district-led performance assessments, since this process identifies student outcomes for college and career readiness. Once an initial vision for graduates is in place, it may become apparent that instruction and assessment need to shift to better prepare students. When the performance assessment work is starting out, it is important to focus on clear messaging about both the purpose (the “why”) and the requirements (the “how”) of the new assessment approach. Such messaging, early on, can lead to smooth implementation of a new district performance assessment initiative. The messaging can be reinforced by tools (such as districtwide rubrics aligned to the graduate profile) and professional learning opportunities.
 - **Recommendation for district leaders:** Develop a collaborative, districtwide vision to guide the performance assessment initiative, accompanied by clear and consistent messaging about both the “why” and the “how” of the work.
- **Lesson 3: Ensuring that performance assessments are aligned with, and integral to, district curriculum and instructional practice can support success.** Our case study districts showed that aligning performance assessments with other district initiatives, such as career and technical education, and centering them as integral to these initiatives, can ultimately help to propel and sustain their success. Furthermore, fostering alignment of the work across different district offices, such as curriculum/instruction and Linked Learning, can help to support effective implementation, especially in larger districts. This coherence can signal to teachers, students, and parents that they are invited to share in a vision of change for assessment that is integral to the teaching and learning that is happening in the district.
 - **Recommendation for district leaders:** Ensure that district performance assessment initiatives are aligned with existing district curriculum, instruction, and assessment policies and are positioned as integral to teaching and learning in the district.
- **Lesson 4: Professional learning, on-site coaching, staff time, and policies that support implementation are needed to scale up performance assessment initiatives.** In our case study districts, we found that offering high-quality professional learning opportunities and strong supports for teachers contributed to effective implementation

of the performance assessment initiatives at scale. Districts and schools had success with supporting teachers when they offered ongoing professional learning opportunities focused on performance assessments, when they made coaching available from central office staff and/or technical assistance providers, and when they allocated sufficient time and resources for teachers to coordinate logistics and mentor students. These supports are most effective when they are responsive to needs at different sites (for example, offering more intensive support in the early stages of implementation). Putting these kinds of tangible supports into place can show students, parents, and teachers that the performance assessment initiative is an important priority and has the capacity to succeed.

- **Recommendation for district leaders:** Develop an implementation strategy that includes strong supports for teachers, such as staff time for planning, coordinating, and mentoring students, as well as professional learning and coaching opportunities.
- **Lesson 5: To succeed, students need strong and equitable supports, including access to mentorship, peer supports, time to prepare, and exposure to curriculum that builds relevant skills.** These supports are especially important in the early years of implementing a performance assessment initiative, when students are still learning about the process. In our case study districts, time to prepare for a culminating performance assessment could take the form of a stand-alone course devoted to supporting students through the process, opportunities to work independently and meet with mentors, or dedicated work time in content area or advisory classes. Providing these student supports requires both creative approaches to organizing time and curriculum and, sometimes, an investment of funding at the school and/or district level to pay teachers and other school staff for the additional responsibilities that they may take on to support implementation at their sites (e.g., stipends or compensation for extra hours worked, additional staff positions). When allocating the resources of time, curriculum, and money, it is important to ensure that participating schools—and the students who attend them—have equitable access to these supports, including across different academic programs (e.g., International Baccalaureate), student demographic groups (including English learners and students with disabilities), and school sites.
 - **Recommendation for district leaders:** Equitably allocate sufficient resources across academic programs, student demographic groups (including English learners and students with disabilities), and school sites to ensure that students have the support they need to successfully participate in the district performance assessment initiative.
- **Lesson 6: A performance assessment policy that balances teacher innovation with a shared districtwide vision and clear path to scaling up can increase access and success.** Across the three districts, we found that a performance assessment policy can help to legitimize the work and to support consistent and effective implementation. The policy can take different forms, such as a board-approved, districtwide graduation requirement and/or graduate profile, or a requirement for schools opting into a particular initiative. It is important to keep in mind the potential trade-offs involved with these different options. A more top-down approach may reach a larger number of students, but it may also result in pushback from students, parents, or teachers who do not yet understand or support the work. A more bottom-up approach that invites teachers or schools to opt in may build goodwill and encourage high-quality implementation, but it may also result in uneven

access for students in classrooms or schools that do not choose to opt in. A successful policy for implementing a district performance assessment initiative will be neither a solely top-down nor bottom-up approach, but instead will balance a variety of district- and school-level efforts and will be highly collaborative in nature.

- **Recommendation for district leaders:** Enact a district policy in support of performance assessments that balances an opt-in, collaborative approach with centralized supports and eventual expectations for all students and schools to participate.
- **Lesson 7: A flexible approach that allows educators to create locally appropriate processes, while also providing resources to facilitate structured growth, can support the spread of performance assessments.** Based on our case study districts, we found that it is important to harness the expertise of principals and teachers when implementing district performance assessment initiatives. When given flexibility, educators can find innovative ways to adapt the process to the needs of their students and school community, drawing upon their expertise and familiarity with students. At the same time, district leaders can and should maintain a focus on high-quality implementation of performance assessments by providing well-structured support and resources with a focus on continuous improvement. This can include improvement guidance (e.g., shared rubrics and professional learning opportunities) and guidelines for equitable implementation (e.g., suggested accommodations or modifications for students with disabilities or English learners) to support consistent and high-quality implementation across schools and student racial and ethnic groups.
 - **Recommendation for district leaders:** Allow sufficient flexibility for schools to make the performance assessment process their own while also providing guardrails for quality and consistency across sites.
- **Lesson 8: State policy can be helpful for creating supportive conditions in which districts can implement performance assessment initiatives.** The case study districts implemented their performance assessment initiatives within the context of California state policy. Relevant policies included educational standards, assessment approaches, and funding opportunities that were aligned to deeper learning competencies and emphasized hands-on learning and assessment through career and technical education. Promising policies that are currently underway or under consideration in California include the implementation of the Next Generation Science Standards, the development of the State Seal of Civic Engagement, the continued refinement of the College and Career Indicator as part of the school and district accountability system, and the decision to end the use of SAT and ACT scores in admissions decisions to the University of California system. State policy shifts can encourage and support district leaders to rethink their approach to instruction and assessment.
 - **Recommendation for state policymakers:** Consider opportunities for state policy to support innovative performance assessment initiatives in local districts through educational standards, assessment and accountability approaches, and funding opportunities.

Implementing district performance assessment initiatives is a complicated endeavor, and none of the three districts studied would claim to have all the answers. The value of this work can be found not just in the final outcome, but in the learning and growth that happens along the way.

Introduction

Performance Assessment in Action

Elena Ramos, a 12th-grade student at a small school in Oakland Unified School District, stands at the front of the classroom, dressed professionally and emanating an impressive calm. She is about to present the findings of her graduate capstone project, a rigorous, yearlong investigation into teen tobacco use inspired by her experience with tobacco marketing after she moved to the United States. Four people walk into the library, take a seat alongside the facilitator, and introduce themselves. One is a teacher and the other three are current students or recent high school graduates.

Elena introduces her research topic with visuals and data. Four years ago, she moved to Oakland. One of the biggest problems she observed: flavored-tobacco products everywhere that were affecting the health of members of her new community. Elena describes her summer internship with a local tobacco control program, which prompted her interest in researching this issue in greater depth and developing a potential solution. She presents her thesis for the project, explaining, “Tobacco companies intentionally target teens with their marketing. This means teens are more likely to start smoking [early], leading to an overall less healthy community.” She points out that the companies’ goal is to make money, and so they target young people using “kid-friendly flavors” to hook them early on nicotine. Her proposed solution? Ban the sale of tobacco products at grocery stores. She notes that these grocery stores are often close to schools, making the products easily accessible to young people. To support her thesis, Elena presents data from a reputable local news source, as well as visuals of a smoker’s lung, to highlight the negative impacts of e-cigarettes on users’ health.

Elena also describes the original research that she conducted, an action research project in which she surveyed 75 students from her high school to learn how frequently they are exposed to tobacco products and marketing. As part of her graduate capstone, she wrote a paper that shared her research question, process, and findings, which she presented to a 9th-grade class to promote awareness of e-cigarette marketing and the negative health consequences of smoking.

Finally, as she wraps up the presentation to the panelists, she reflects on the scope of this work with pride, saying, “At the beginning of the year, I thought it would be impossible because my first language is not English. At the start, I was scared ... of how it would be and of asking for help. Now I’m here. Two of the skills I have improved through this process [are] my public speaking skills and my writing skills.” She began the year believing the graduate capstone project to be an impossible feat, and yet she emerged with the tools to be a strong, skilled advocate for her community.

The lights in the library flicker on and Elena stands poised, ready to respond to the panelists’ questions with confidence. The facilitator, an English teacher and 12th-grade advisor, begins by asking Elena, “What would you say to people who say that you should be able to buy whatever you want?” The question is tricky; it poses the counterargument that free will is more important than protecting people from unhealthy choices, but Elena reframes the issue. She responds confidently, saying, “[Teens] are not buying because they want to, but because they have to. Tobacco companies are getting to us by selling in grocery stores. I wanted to try [flavored tobacco products] because they look like candy. People say they have free will, but they don’t have it.... It’s suicidal, consuming products that will make them die in the future.”

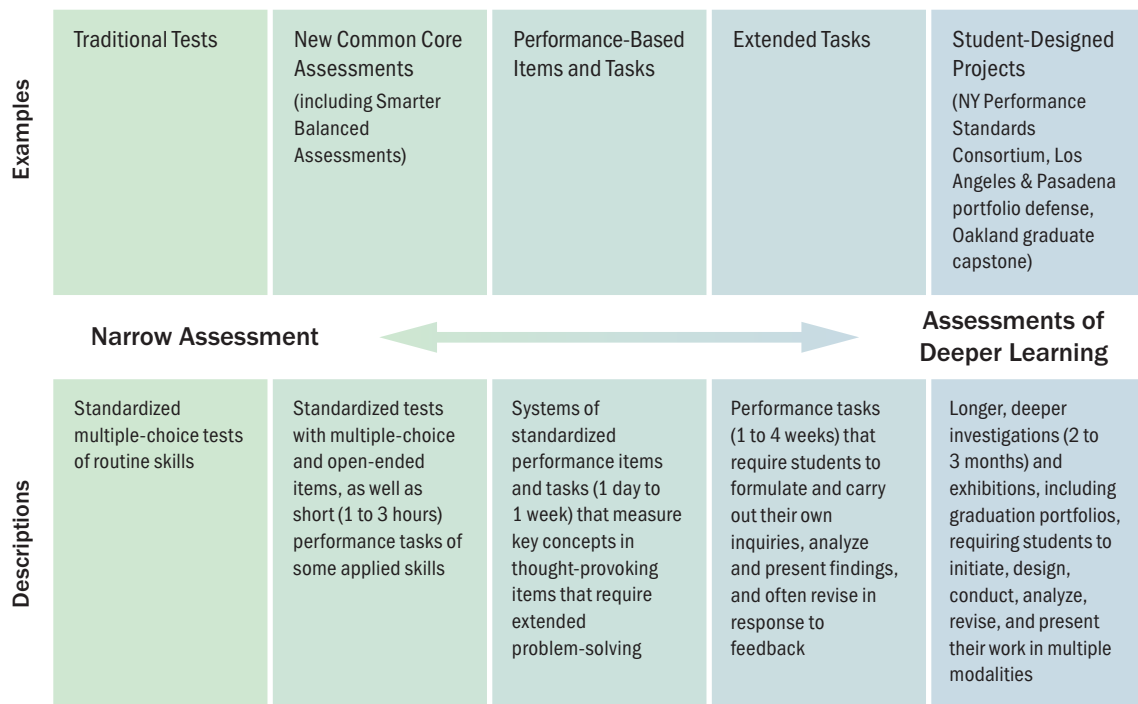
Elena uses this opportunity to reiterate the argument she honed throughout her year of research: Tobacco marketing targets teens and children who are too young to be discerning consumers. These companies are not selling tobacco; they are selling addiction, and they are targeting students like her.

Once Elena leaves, the four panelists and facilitator discuss the strength of her presentation. They reflect on her poise in responding to questions, highlighting her ability to respond thoughtfully while off-script. One of the panelists shares that it was his 9th-grade class that heard Elena's presentation and that his students were impressed and informed by her passionate presentation. Finally, they reflect on her response to the question about free consumer choice. Some panelists enjoyed her reframing of the issue, while others wanted her to respond more directly to the question; the whole panel, however, agrees that she is a knowledgeable, passionate advocate for this issue. She will graduate with the skills to investigate and address critical issues facing her community.

Note: The student's name has been changed.

When students—including Elena Ramos, who is described above—engage in a performance assessment, it can provide a meaningful demonstration of what they have learned. Performance assessments encompass a wide variety of activities, all of which require students to show what they know, rather than selecting answers from predetermined options on a multiple-choice test. Performance assessments can range from composing a few sentences (an open-ended short response) to developing a thorough analysis (an essay or short performance task) to conducting and analyzing a laboratory investigation (an extended, hands-on performance task). They can also take the form of graduate portfolios (a curated collection of student work used to evaluate mastery of different subject areas) or capstone projects (a student-designed culminating task, such as an original research paper, that gauges students' cumulative competencies). Both portfolios and capstone projects often require students to reflect on their learning over a sustained period of time (see Figure 1). Performance assessments are typically evaluated using rubrics, which are scoring guides that list criteria by which work will be judged and describe different levels of quality for each criterion.¹

Figure 1
Assessment Continuum



Source: Adapted from Darling-Hammond, L. (2017). *Developing and measuring higher order skills: Models for state performance assessment systems*. Washington, DC, and Palo Alto, CA: Council of Chief State School Officers and Learning Policy Institute

By requiring students to construct an original response, performance assessments can measure higher-order thinking and reasoning skills, as well as the ability to apply learning to solve meaningful problems.² The goal of this assessment approach is to more closely emulate the real-world conditions of college and career settings. For example, business leaders have expressed a need for employees who can engage in complex thinking and creative problem-solving. A 2015 survey of employers by the Association of American Colleges and Universities found that large majorities of employers do NOT feel that recent college graduates are well prepared with the types of skills and knowledge that are most important in the workplace, such as critical thinking and written or oral communication.³

As adults, it is standard practice to take both a written examination and a road test in order to receive a driver’s license. This process not only protects public safety, but also establishes a common standard for proficiency among drivers. The experience of preparing for the road test is itself a useful way of improving one’s driving skills. The road test is also a much better indicator of a driver’s understanding of how to operate a car than the written test. In a similar sense, performance assessments in k–12 settings seek to provide value as a learning experience for both students and teachers—who can better understand what students know and can do—as well as a well-rounded measure of students’ knowledge.

National Landscape for Performance Assessments

In the United States k–12 education system, performance assessments have been used for decades in Advanced Placement (AP) and International Baccalaureate (IB) curricula.⁴ In addition, many states developed robust performance assessment systems in the 1990s that included performance tasks and portfolios, although most of these efforts were abandoned during the era of the No Child Left Behind Act of 2001.⁵ However, some survived, and a number of states are reestablishing a commitment to a balanced approach to assessment—which includes performance assessments. For example, New Hampshire’s Performance Assessment of Competency Education (NH PACE) pilot replaces most standardized tests with a combination of locally developed performance assessments and common performance tasks that are used across participating districts.⁶

These state policies are complemented by local performance assessment initiatives. For example, the long-running New York Performance Standards Consortium, a coalition of 38 New York public schools, has successfully used performance assessments and graduation portfolios for 2 decades.⁷ Other school networks, which are centrally managed or voluntary associations of schools organized around common design principles and instructional approaches, have also supported the implementation of performance assessments. These include Envision Schools, the Internationals Network for Public Schools, and Big Picture Learning.⁸ Another network, the California Performance Assessment Collaborative (CPAC), operates a network for California schools and districts focused on performance assessments, including the three districts in this study.

California Performance Assessment Collaborative

The California Performance Assessment Collaborative (CPAC), which is led by the Learning Policy Institute, includes the three districts that are the subject of this study. CPAC has brought together more than 300 educators, technical assistance providers, researchers, and funders to learn from and with each other about implementing well-designed performance assessments. Launched in 2016, this group represents over 60 secondary schools across 15 districts, 6 school districts with active engagement from district leaders, 6 school networks, and 5 technical assistance partners—together serving many thousands of California students.

The goals of CPAC are to (1) build a network focused on improving the quality of performance assessments; (2) expand the number of California districts, networks, and schools implementing performance assessments; and (3) connect practitioners with policy efforts related to performance assessments. The Learning Policy Institute both facilitates the network and engages in research and documentation efforts, such as this study.

Some CPAC member organizations implement a capstone project and defense, which is a culminating task (such as an original research paper) and presentation that gauges students’ cumulative competencies. Others engage students in a portfolio defense, which is the development and presentation of a curated collection of student work used to evaluate mastery of different subject areas. This experience is often a graduation requirement, although many district- and school-level initiatives focus on preparing students in 10th grade or even earlier. CPAC members have developed a set of 10 unifying principles that guide the collective work.⁹ Performance assessments should:

1. Be aligned to clearly articulated student competencies.
2. Account for the needs of underserved student populations (including English learners and students with disabilities).

3. Collect and/or exhibit evidence of student growth and proficiency.
4. Include a presentation before an authentic audience.
5. Provide students with multiple opportunities to develop and demonstrate mastery.
6. Be evaluated with rubrics and/or clear criteria of competence.
7. Provide student outcome data that is used to improve curriculum and instruction.
8. Enable students to take ownership over their learning and growth.
9. Include opportunities for self-reflection.
10. Develop students' social-emotional skills.

See the Learning Policy Institute's CPAC project page for more information:¹⁰ <https://learningpolicyinstitute.org/project/california-performance-assessment-collaborative>.

Evidence Base for Performance Assessments¹¹

A substantial body of research supports performance assessments as a strategy to improve educational outcomes. Studies in states such as California, Kentucky, Maine, Maryland, Vermont, and Washington have found that regular participation in performance assessments is associated with improved achievement on traditional standardized tests as well as more complex measures of deeper learning competencies, such as critical thinking and communication.¹² In addition, research indicates that students who are engaged in completing performance tasks and portfolios that require reflecting on and revising their work ultimately perform better on higher-order thinking measures (e.g., synthesis, analysis, critical thinking, and communication) and demonstrate stronger growth mindsets.¹⁵

There is also evidence that engagement in this kind of work better prepares students for higher education. For example, research suggests that schools in New York's Performance Standards Consortium reported higher graduation rates and college persistence rates for participating students of color, English learners, and students from low-income families when compared to students attending non-consortium schools.¹⁴ Similarly, research on Envision Schools, a network of charter schools in the San Francisco Bay Area that uses a portfolio defense model, has found that, across years, more than 80% of its students attend 4-year colleges and universities, and they demonstrate college-persistence rates far above national averages.¹⁵ Complementing these findings is research suggesting that authentic assessments are more valid predictors of academic and career success and persistence than the standardized assessments that students must typically complete to access institutions of higher education.¹⁶

The evidence base suggests that performance assessments can improve the quality of classroom instruction.¹⁷ One reason that performance assessments embedded in classroom instruction may help to enhance student learning is that they support students in undertaking intellectually challenging tasks. If teachers employ these practices consistently, with feedback and opportunities to revise work to meet high standards, the level of rigor in the classroom increases. In addition, these assessments provide information to teachers about how students think and try to solve

problems. This feedback allows teachers to diagnose students' strengths as well as gaps in understanding, enabling them to more easily identify what kind of help students need and tailor their instruction accordingly.¹⁸

However, relatively little research examines the key conditions needed to support high-quality performance assessments at the district, school, and classroom levels. The current study builds upon the work of CPAC to address this issue by documenting performance assessment efforts in three districts participating in CPAC: Los Angeles Unified School District (Los Angeles Unified), Oakland Unified School District (Oakland Unified), and Pasadena Unified School District (Pasadena Unified). The following section gives more information about this study and lays out a roadmap for the remaining sections of the report.

This Study

Given the complex nature of meaningfully assessing student learning, what policy and practice conditions need to be in place for performance assessment initiatives to take hold in districts? How do districts and schools build the systems and structures for developing, implementing, and scaling well-designed performance assessments? What are the perceived outcomes of participating in performance assessments for students and teachers?

This study set out to answer these questions by closely examining the implementation of performance assessment initiatives taking place in three districts that are actively engaged with CPAC:

- **Los Angeles Unified**, which supports a model wherein a growing number of 12th-grade students in Linked Learning pathways (a program of study that integrates a college preparatory curriculum with career and technical education and student supports) defend a portfolio of their work.
- **Oakland Unified**, which encourages 12th-grade students to complete and present a graduate capstone (an original research project) prior to graduation.
- **Pasadena Unified**, which requires all 12th-grade students to defend a portfolio of their work in order to graduate.

While these three districts each have a unique approach, all are committed to assessing student learning in a meaningful way that is aligned to the outcomes they hope all students will achieve by the time they graduate. These outcomes are described in the graduate profiles developed by each district, which lay out a vision for the college- and career-ready knowledge, skills, and work habits students should achieve by the time they graduate from high school. Performance assessments are one way to assess students' readiness to graduate.

In this study, we seek to explore how these districts developed and scaled their performance assessment approaches over time. By scale, we are referring not just to the numeric spread of performance assessments in the districts (the traditional definition of “scaling up”), but also to the depth and sustainability of implementation; the spread of beliefs, norms, and principles to classrooms and schools; and the degree to which practitioners develop expertise in and ownership of these initiatives.¹⁹ Rather than seeing efforts to scale performance assessment initiatives as a top-down reform, we are interested in the “adaptive challenge of spreading human learning and collective meaning making, in actual practice and organizational systems.”²⁰ We are also thinking of scaling as a process of reinvention, in which innovations may undergo radical transformations undertaken by local actors.²¹

This multiple case study is designed to document the performance assessment initiatives in each district, including their implementation and how the work is spreading across schools, through a richly descriptive qualitative analysis. Our intent was not to evaluate the impact of these initiatives (although we did collect preliminary self-reported outcome data from students and teachers at a few schools in each district, which we include in the report), nor was our intent to evaluate each district as a whole. Our focus is limited to documenting the implementation of these specific initiatives related to performance assessments.

A series of case studies focused on each district accompanies this cross-cutting report. Individual research teams collaborated on the design of each district case study, as well as on the broader cross-case study. This research draws on a thorough analysis of qualitative data sources, including documents, interviews, focus groups, and observations of student presentations and professional learning events for teachers. In addition to interviews at the district level, the research teams visited three schools within each district during the course of this study (spanning the 2017–18 and 2018–19 school years), which represented a range of experience with implementing the performance assessment initiative. (See Appendix A for more information on our methods.)

The report begins with a discussion of the context in all three CPAC districts—including the features of each associated performance assessment initiative. It then describes what our analysis suggests are the key conditions supporting successful implementation of those initiatives:

- Foundational policies and associated practices supported the implementation of performance assessments.
- Key starting conditions included technical assistance for school and district leaders, opportunities to observe performance assessments in action, and a strategy in place to develop and scale performance assessments.
- A supportive policy and practice environment at the state and local levels focused on deeper learning and Linked Learning (see “Linked Learning in California” on page 12).
- High-quality professional learning opportunities were organized by the central office.
- Strong teacher leadership supported school-level implementation, along with resources such as time and money.
- Flexibility for instructional leaders at school sites encouraged schools to determine the most effective supports for their students, with guidance from the central office.

The report then explores perceived student and teacher outcomes drawn from the data collected in each of the three districts. We found that:

- Students experienced expanded opportunities to demonstrate deeper learning competencies—including improved communication and presentation skills; greater confidence in college and career preparation; and growth in social-emotional skills such as perseverance, creative problem-solving, and a growth mindset.
- Teachers reported an increased focus on alignment between curriculum, instruction, and assessment across subjects and grade levels; continuous reflection on and improvement of instructional practice; more positive relationships with their students; and closer collaboration with their colleagues.

Based on these findings related to system supports and perceived outcomes, we identify some lessons learned across the three districts studied:

- Performance assessments can positively influence teachers’ instructional practices and students’ learning outcomes.

- A clear vision, grounded in a shared definition of what students should know and be able to do, can support implementation.
- Positioning performance assessments as aligned with and integral to district curriculum and instructional practices can support success.
- Professional learning, on-site coaching, staff time, consistent central office messaging, and policies that support implementation are needed to scale up with equity.
- To succeed, students need strong supports, including access to a site coordinator and other adult mentors, peer supports, time to prepare, and exposure to curriculum that builds relevant skills.
- A balanced approach to scaling up performance assessment within districts seeks to increase access while still maintaining buy-in.
- A flexible approach that allows educators to create their own processes, while also providing resources to facilitate structured growth, can support the spread of performance assessments.
- State policy—including educational standards, assessment systems, and funding approaches—can help to create supportive conditions in which districts can implement performance assessment initiatives when aligned to similar goals for student outcomes.

These lessons are presented along with associated recommendations for district leaders interested in implementing well-designed performance assessments within their own context, as well as a recommendation for state policymakers. These recommendations may also be of interest to a number of other stakeholders, including school administrators and teachers; local policymakers who are curious about innovative assessment efforts; and students, parents, and community organizers who would like to pursue a more meaningful approach to assessing student learning and growth. Before turning to our findings, we present descriptions of the three districts and their performance assessment initiatives.

District Context

Key Terms

Performance Assessment: An approach to educational assessment that requires students to directly demonstrate what they know and are able to do through open-ended tasks such as constructing an answer, producing a project, or performing an activity. This demonstration can include generating a short written response, writing an analytical essay, conducting a science investigation, creating a curated portfolio of work, or developing an original research paper.

Rubric: A list of criteria by which performance assessments will be judged, which describes different levels of quality for each criterion. Rubrics are often used to interpret and monitor student progress and performance on tasks.

Defense of Learning: A form of performance assessment in which students present their original work to a combination of educators, peers, and community members for feedback and/or evaluation. Defenses involve public speaking and an accompanying visual display.

Graduate Profile: A document describing the knowledge and skills students should have when they graduate from high school to be ready for college and career, often best measured through performance assessments. This document is produced collaboratively by stakeholders at either the school or district level.

Linked Learning: A program of study that integrates a college preparatory curriculum with a sequence of career and technical education courses and work-based learning opportunities, including internships. The curriculum is organized around industry themes (e.g., Arts, Media, and Entertainment or Business and Finance) and includes performance assessments.

Los Angeles Unified, Oakland Unified, and Pasadena Unified have taken unique and innovative approaches to assessing student learning. Each district grounds its work in a strong vision for how to prepare graduates to succeed in college, career, and life. The performance assessment initiatives in these districts focus on the high school level, although the implications for students and teachers extend to middle school and earlier. This section provides an overview of each district's size, demographic context, and performance assessment initiative, along with associated policies and supports. The performance assessment initiatives in these three districts are taking place within a broader landscape of funding challenges, collective bargaining negotiations, and many other factors that influence the implementation of any district program. This study addresses these broader issues only insofar as they influence implementation of the performance assessment initiatives themselves.

As the demographic overview indicates (see Table 1), during the 2018–19 school year the high school graduation rates and 11th-grade standardized test scores in English language arts and mathematics across the three districts were lower than statewide averages, although in Los Angeles Unified and Oakland Unified the percentage of graduating students who met the sequence of course requirements (called the A-G courses) for admission to the University of California or California State University systems met or exceeded the statewide average. When comparing district outcomes to statewide averages, it is important to keep in mind that these three districts have a high percentage of students from low-income families (in the case of Los Angeles Unified and Oakland Unified, this percentage is substantially higher than the statewide average). Oakland Unified

also has a higher percentage of students who are English learners than the statewide average. Research indicates that student outcomes on standardized tests, in particular, are associated with demographic factors, including family income and education level, and the influence of neighborhood peers and of classmates who may be relatively more advantaged or disadvantaged.²² It is also important to note that while the three districts vary in size, all three are relatively large and are located in urban areas, compared to other parts of California or the nation.

Table 1
Overview of Participating Districts, 2018–19

	Los Angeles Unified	Oakland Unified School District	Pasadena Unified School District	Statewide
Student Enrollment	607,723	50,202	17,748	6,186,278
Schools	1,009	123	33	10,521
Race/Ethnicity	<ul style="list-style-type: none"> • 74% Latino/a • 11% White • 6% Asian, Filipino/a, or Pacific Islander • 8% African American • 1% Other or Not Reported 	<ul style="list-style-type: none"> • 46% Latino/a • 10% White • 14% Asian, Filipino/a, or Pacific Islander • 24% African American • 6% Other or Not Reported 	<ul style="list-style-type: none"> • 58% Latino/a • 19% White • 7% Asian, Filipino/a, or Pacific Islander • 12% African American • 4% Other or Not Reported 	<ul style="list-style-type: none"> • 55% Latino/a • 23% White • 12% Asian, Filipino/a, or Pacific Islander • 5% African American • 5% Other or Not Reported
Students From Low-Income Families^a	81%	74%	60%	61%
English Learners^b	20%	31%	15%	19%
Students With Disabilities	14%	12%	15%	13%
4-Year Adjusted Cohort High School Graduation Rate	78%	72%	85%	88%
11th-Grade Smarter Balanced Assessment Performance (non-charter students)	<ul style="list-style-type: none"> • 51% proficient for English language arts • 24% proficient for mathematics 	<ul style="list-style-type: none"> • 30% proficient for English language arts • 13% proficient for mathematics 	<ul style="list-style-type: none"> • 47% proficient for English language arts • 22% proficient for mathematics 	<ul style="list-style-type: none"> • 58% proficient for English language arts • 33% proficient for mathematics
Graduates Meeting A-G Requirements for UC/CSU Admission	60%	50%	49%	50%

^a Percentage of students who were classified by the California Department of Education as “socioeconomically disadvantaged,” meaning that they were eligible for free or reduced-price meals or had parents or guardians who did not receive a high school diploma.

^b Does not include English learners who have been reclassified as “fluent English proficient.”

Note: For high school–level data only, we excluded charter schools (and students enrolled in charter schools) because the district performance assessment initiatives do not include charter schools. We included students enrolled in both charter and non-charter schools when reporting overall district demographics.

Data source: California Department of Education, DataQuest, 2019.

Los Angeles Unified School District: A Linked Learning Pathway–Led Approach

Los Angeles Unified Key Terms

Linked Learning Pathway: Either a small learning community within a high school or an autonomous school that implements the Linked Learning instructional approach by focusing on a particular industry theme and includes performance assessment as part of the model.

Portfolio and Defense: In Los Angeles Unified, all Linked Learning pathways commit to having 12th-grade students complete a portfolio and defense. The portfolio is a type of performance assessment that involves a curated collection of original student work used to evaluate mastery of and/or growth in different subject areas and across different grade levels, often including the student’s reflection on the included assignments. The defense is a student presentation on that portfolio in their senior year of high school.

Los Angeles Unified School District (Los Angeles Unified) is the largest district in this study and one of the largest districts in the United States, second only to New York City. In 2018–19, it served over 600,000 students across 1,009 schools.²³ This included over 124,000 9th- through 12th-grade students across 175 high schools (excluding charter schools).²⁴ The district’s student population is primarily Latino/a (74%), with the remainder of the population comprising White students (11%); African American students (8%); and Asian, Filipino/a, or Pacific Islander students (6%). In addition, 81% of students in Los Angeles Unified come from families earning a low income, and 20% of students are classified as English learners.²⁵

The landscape of performance assessments in Los Angeles Unified today has been shaped by the work carried out over the past decade by the Linked Learning District Initiative (see “Linked Learning in California”). The integration of rigorous career and technical education with a college preparatory curriculum offers a hands-on approach to instruction and assessment. Linked Learning is delivered through **pathways**, which are small learning communities within a high school that focus on industry themes such as Arts, Media, and Entertainment or Business and Finance. In 2018–19, Los Angeles Unified had 66 Linked Learning pathways across 37 schools, representing approximately 28% of non-charter and non-optional high schools in the district.²⁶ The Los Angeles Unified Linked Learning Office, which is part of the Division of Instruction and is home to six administrators and coaches, leads the district’s Linked Learning and performance assessment work. Educators in Linked Learning pathways commit to implementing a portfolio and defense model, through which 12th-grade students collect and reflect upon a selection of work from their high school classes and then present their work in a public defense of their learning.

Linked Learning in California

Launched in 2009 by the James Irvine Foundation, the Linked Learning District Initiative was originally piloted in nine districts across California. The Linked Learning approach is designed to prepare college- and career-ready high school graduates through a high-quality program of study that integrates a college preparatory curriculum with a rigorous career technical education sequence, work-based learning opportunities, and student supports. To date, Linked Learning has expanded to more than 500 schools across 100 school districts in California.²⁷

The hallmark of the Linked Learning approach is its pathways: industry-themed programs of study, organized in small learning communities within a school, which are designed to ensure students have the academic and technical skill proficiencies to be college and career ready upon graduation.²⁸ For example, in Los Angeles Unified, each Linked Learning pathway is associated with one of the following 10 industry sectors:²⁹

1. Agriculture and Natural Resources
2. Arts, Media, and Entertainment
3. Business and Finance
4. Education, Child Development, and Family Services
5. Energy, Environment, and Utilities
6. Engineering and Architecture
7. Health Science and Medical Technology
8. Hospitality, Tourism, and Recreation
9. Information and Communication Technology
10. Public Services

When fully developed, a Linked Learning pathway provides a hands-on curriculum that allows students to engage with projects and authentic forms of assessment that are tied to the industry theme and allow students to demonstrate breadth, depth, and application of learned skills. Students are also exposed to work-based learning opportunities, including job shadowing and internships, which are aligned to the industry theme of their pathway. The “tasks and projects in Linked Learning pathways are often multidisciplinary and problem-based, and connections to the real world aim to be authentic and transparent.”³⁰

Performance assessments are an integral element of the Linked Learning approach, and it is expected that all Linked Learning pathways will eventually adopt a culminating performance assessment in order to achieve the highest level of certification from the Linked Learning Alliance. As such, any effort to study a district that is implementing both Linked Learning and a performance assessment initiative will be unable to fully disentangle the implementation of these intertwined approaches, or to disentangle any effect on student outcomes.

The Linked Learning Office has also led the development of a district graduate profile that aims to define college and career readiness for students, guide the authentic assessment of student learning, and align with local accountability measures. In draft form, as of spring 2020, this profile is under review for official adoption by the Los Angeles Unified Board of Education. Meanwhile, each Linked Learning pathway within a school develops a defined set of expected student learning outcomes that align with the district graduate profile.

The Linked Learning Office committed to scaling performance assessments across pathways as a programwide strategy after seeing the portfolio and defense model in action. In 2014–15, a group of teachers and principals from interested pathways (along with district leaders) visited Envision Academy of Arts and Technology in Oakland to observe a portfolio defense in action. This experience solidified the Linked Learning Office’s commitment to implementing a portfolio and defense model across its pathways.

Los Angeles Unified employs an opt-in approach to the growth of Linked Learning pathways and the portfolio and defense model. In order to start a Linked Learning pathway, educators must demonstrate their support through a positive vote from at least three fourths of the staff and then must engage in a comprehensive onboarding process. All Linked Learning pathways commit to implementing the portfolio and defense, which requires students to develop and present a portfolio of work. However, the Linked Learning Office introduces the portfolio and defense in new pathways only once staff in those pathways are ready to effectively implement the model (usually within 2 to 3 years of starting up). The purpose of this opt-in, multistage approach is to ensure that educators are fully prepared and well supported as they take on this new work.

All Linked Learning pathways commit to implementing the portfolio and defense, which requires students to develop and present a portfolio of work.

In Los Angeles Unified, the number of Linked Learning pathways implementing the portfolio and defense has grown steadily. In 2010, there were a total of six pathways piloting the Linked Learning approach. By the 2018–19 school year, over half (40) of the district’s 66 Linked Learning pathways engaged in the portfolio and defense.³¹ The remaining pathways will start implementing the portfolio and defense as soon as the Linked Learning Office determines they are ready to do so. During the 2018–19 school year, district staff estimated that the 40 pathways implementing the portfolio and defense represented 24% of Los Angeles Unified high schools, with approximately 4,000 12th-grade students involved.³² As the district’s approach to high school reform, Linked Learning pathways were present in approximately 28% of Los Angeles Unified high schools in 2018–19.³³

The Linked Learning Office offers extensive support to pathways implementing the portfolio and defense. This support includes ongoing professional learning opportunities and targeted on-site coaching for administrators and teachers who are leading the portfolio and defense. In 2018–19, professional learning opportunities included a five-part, yearlong series of sessions for school teams in their first year of implementing the portfolio and defense. Another series focused on improving the quality of student work on mathematics and research tasks. In addition to in-person learning opportunities, the Linked Learning Office maintains a well-developed collection of portfolio and defense resources on two websites, one designed for educators and one designed for students. District staff have also worked closely with technical assistance providers, including ConnectED: The National Center for College and Career, Envision Learning Partners, and the Stanford Center for Assessment, Learning and Equity (SCALE), to develop common rubrics for performance assessment tasks and senior defense presentations. Linked Learning pathways are encouraged—but not required—to use and modify these rubrics.

The longer-term vision of the Linked Learning Office is to see the number of pathways within schools continue to increase through a rigorous and well-supported onboarding process and for the portfolio and defense model to become more broadly adopted in the district and recognized as a form of assessment that aligns with district goals. District staff are actively working to expand the portfolio and defense to the remaining Linked Learning pathways that have committed to implementation but have not yet started to do so. Although the portfolio and defense primarily

takes place in high schools, several Los Angeles Unified middle schools have recently adopted a modified version of this practice in an effort to tap into students' interests and increase their engagement in school.³⁴ In addition, in 2017–18, district leaders reported that representatives from 10 non–Linked Learning high schools participated in a professional learning session focused on the portfolio and defense. This points to potential interest in expanding the portfolio and defense model beyond Linked Learning. Although the portfolio and defense model is the only formal system-level performance assessment initiative taking place within the district, the Los Angeles Unified Division of Instruction encourages non–Linked Learning schools to integrate performance assessments into mathematics and science instruction. This, too, indicates the potential for the portfolio and defense model to expand beyond Linked Learning.

Oakland Unified School District: A District-Facilitated Approach Sustained by Teacher Leadership

Oakland Unified Key Terms

Senior Project: A districtwide requirement, dating back to 2005, that all students must complete a “serious research project or exhibition which demonstrates achievement of school-wide learning goals and designated key content standards” in order to graduate.³⁵

Graduate Capstone: A culminating performance assessment that gauges students' cumulative competencies and is an option to fulfill the senior project requirement mentioned above. In Oakland Unified, 12th-grade students who participate in the graduate capstone complete a yearlong original research paper and presentation that are both assessed using districtwide rubrics.

Oakland Unified School District (Oakland Unified), a midsize district in this study, served over 50,000 students across 123 schools in 2018–19.³⁶ This included over 9,000 students across 17 high schools (including 6th- through 12th-grade schools and excluding charter schools). The district's student population is primarily Latino/a (46%) and African American (24%), with the remainder of the population comprising Asian, Filipino/a, or Pacific Islander students (14%) and White students (10%). In addition, 74% of students in Oakland Unified come from families earning a low income, and 31% of students are classified as English learners.³⁷

The district's performance assessment initiative is called the graduate capstone, a yearlong original research paper and presentation that students complete in 12th grade. This initiative emerged as a way to increase the level of rigor and consistency associated with the senior project, a graduation requirement mandated by the district. In 2005, the Oakland Unified School Board approved a requirement that all 12th-grade students complete a senior project or exhibition in order to graduate.³⁸ Although this requirement applied to all students, the district did not issue detailed guidelines about what this experience

The district's performance assessment initiative is called the graduate capstone, a yearlong original research paper and presentation that students complete in 12th grade.

should involve. This led to inconsistent implementation across schools, with some students held to a more rigorous work standard and receiving a higher level of support than others. In 2013, several central office administrators began to address this issue by leading a collaborative process to draft a district graduate profile.

The profile was not formally board-approved at the time (although a revised version was recently approved³⁹), but rather the initial draft of the district profile served as a guiding document for the graduate capstone work. The rationale was that developing a clear vision for how to prepare students to succeed in college, career, and community life could inform a consistent set of expectations for a revamped senior project. In the summer of 2015, district leaders recruited teachers to decide on a set of writing and presentation rubrics for the newly reinvigorated senior project, now called the graduate capstone. These rubrics were developed primarily by technical assistance partners (including Envision Learning Partners and SCALE) and aligned with key competencies defined in the district graduate profile—namely, that students become academically proficient, civically engaged, and essential communicators.⁴⁰ Schools that opt in to implementing the graduate capstone use these district rubrics as a shared standard against which to assess student work for the senior project graduation requirement.

As in Los Angeles Unified, the district's Linked Learning initiative has played a key supportive role for graduate capstone implementation. The hands-on approach to instruction and assessment, taking place within a rigorous and integrated career and technical education and college preparatory curriculum, aims to set students up for success in their senior year. In 2018–19, Oakland Unified had 28 Linked Learning pathways across 14 high schools, representing approximately 82% of non-charter high schools in the district.⁴¹ These 28 pathways enrolled 87% of Oakland Unified sophomores in 2018–19, with a district goal to go “wall-to-wall” and enroll 100% of 10th-grade students in a Linked Learning pathway starting in the 2020–21 school year.⁴²

Participation in the Oakland Unified graduate capstone has grown over time, meaning that educators at a site are opting in to using the district rubrics and engaging in professional learning opportunities offered by the Linked Learning Office. Initially, 12 of 28 Linked Learning pathways used the district rubrics in 2016–17, which grew to 17 of 29 pathways in 2017–18, and 19 of 28 pathways in 2018–19.⁴³ During the 2018–19 school year, a total of 1,186 Oakland Unified seniors were assessed using the graduate capstone rubrics. This represents approximately two thirds (66%) of the 1,800 12th-grade students enrolled in Linked Learning pathways. Students who did not participate in the graduate capstone (1,567 12th-grade students in non-charter schools during the 2018–19 school year⁴⁴) still completed a senior project but were not assessed with district rubrics aligned to the graduate capstone guidelines. As the district continues to advance toward the goal of enrolling all high school students in Linked Learning pathways, and as more educators opt in to the graduate capstone process by joining the associated community of practice, the number of participating students is expected to increase.

Professional learning opportunities related to the graduate capstone, which are led by central office staff and are voluntary for teachers to attend, have served as an important strategy for expanding implementation. These opportunities, which are organized as an ongoing community of practice, are open to all high school teachers in the district.⁴⁵ In 2018–19, teachers from 65% of Linked Learning pathways attended professional learning on the graduate capstone, an increase of nearly 10% from the previous year.⁴⁶ These sessions are held four times throughout the school year and once during the summer. Each session is 2 hours long, with the first hour focused on a mini-lesson

and discussion and the second hour dedicated to common planning time within and across school sites. Although the composition of attendees varies each time, a dedicated cohort of 20 to 25 teachers chooses to attend each session on a regular basis.⁴⁷ The professional learning series is at the heart of establishing a common standard of rigor for the graduate capstone (formerly known as the senior project) across school sites.

Pasadena Unified School District: A District-Led Approach Based on a Shared Vision for Graduates

Pasadena Unified Key Terms

College and Career Academy: A small learning community within a high school that implements a blend of the approaches of Linked Learning and the California Partnership Academy, a statewide initiative to provide a “school-within-a-school” experience to improve learning outcomes for struggling students. Both approaches seek to connect rigorous academics, including performance assessments, with high-quality career and technical education in a small and personalized learning environment focused on an industry theme (e.g., Law and Social Justice or Creative Arts, Media, and Design).

Senior Defense: In Pasadena Unified, all students must engage in a performance assessment in order to graduate that involves creating a digital portfolio of their best work from high school. The portfolio must include a six- to eight-page research paper, a project or artifact showcasing creativity, and a three- to five-page reflection paper. For the accompanying defense, students select two to four portfolio artifacts to share in an 8- to 10-minute individual presentation in front of a panel of judges.

Pasadena Unified School District (Pasadena Unified) is the smallest district in this study, serving over 17,000 students across 33 schools and programs in 2018–19.⁴⁸ Of the district’s 28 non-charter schools, three are combined middle and high schools, two are traditional high schools, and one is a continuation high school.⁴⁹ Together, they serve a total of 5,959 students.⁵⁰ The district’s student population is primarily Latino/a (58%), with the remainder of the population comprising White students (19%); African American students (12%); and Asian, Filipino/a, or Pacific Islander students (7%).⁵¹ In addition, 60% of students in Pasadena Unified come from families earning a low income, and 15% of students were classified as English learners.⁵²

As of the 2018–19 school year, all graduating students are required to complete a senior defense, for which they select two to four graded artifacts to include in a portfolio of their best work and present to their teachers and peers. The senior defense emerged in response to a collaboratively developed graduate profile approved by the Board of Education in May 2014. For the prior 4 years, starting in 2010, district staff had worked with Envision Learning Partners to

As of the 2018–19 school year in Pasadena Unified, all graduating students are required to complete a senior defense, for which they select two to four graded artifacts to include in a portfolio of their best work and present to their teachers and peers.

convene over 800 stakeholders in jointly creating a graduate profile. This graduate profile defined a vision for how to prepare students to succeed in college, career, and life. It is organized around seven key components that each include a number of specific, measurable skills.⁵³ District leaders quickly realized, however, that three skills associated with these graduate attributes—research skills, creativity, and communication—were not being effectively taught or measured.⁵⁴ They decided to tackle this challenge by taking a systemic, aligned approach to districtwide curricular and instructional reform. The senior defense was designed as a key mechanism to drive this desired change.

Pasadena Unified’s existing performance assessment initiative is grounded in the district’s long-standing commitment to advancing career and technical education at the secondary level. This commitment began in the 1980s, with the implementation of California Partnership Academies (CPAs), which connected academics with career and technical education in a small and personalized learning environment.⁵⁵ By 2009, Pasadena Unified was home to seven CPAs, which served 27% of high school students in the district.⁵⁶ In 2007–08, Pasadena Unified adopted the Linked Learning “multiple pathways” (or academies) approach to reform John Muir High School.⁵⁷ Seeing the Linked Learning approach transform Muir inspired district leaders to scale up Linked Learning as “the primary reform strategy for secondary education” across the entire district.⁵⁸ Today, Pasadena Unified’s eight College and Career Academies (which are located at four of the district’s six high schools and enroll 2,052 students, or approximately 34% of the district’s high school population) represent a blend of the CPA model and the Linked Learning approach.⁵⁹ These Academies offer students a rigorous, hands-on approach to instruction and assessment within a small, well-supported learning environment—thereby preparing them to succeed on the senior defense.

When the Pasadena Unified Board of Education revised the districtwide graduation requirements in November 2014, they made the senior defense official district policy, starting with the class of 2019.⁶⁰ In the 4 years between adopting and implementing the new graduation requirement, district staff worked to foster understanding and buy-in for the shift. For example, they held a number of community meetings to explain the new graduation requirement to different stakeholders and also organized student volunteers to present their senior defenses early (in 10th grade) to demonstrate the new process. The district staff also collaborated with technical assistance partners, including Envision Learning Partners and the Buck Institute for Education (now PBLWorks), to develop district rubrics for student portfolio artifacts and senior defense presentations. The 2018–19 school year was the first time that Pasadena Unified seniors were required to complete a defense of their work before graduating.

According to the district policy, all secondary schools in Pasadena Unified must implement the senior defense. This means that all 1,067 graduating seniors in the Class of 2019 completed a senior defense.⁶¹ The degree and manner in which these students were prepared for this process varied within and across school sites. For example, College and Career Academies had already created a vertically aligned curriculum intended to prepare students to conduct research and present their work, whereas other teachers used curricula that may not yet have been revised with the senior defense in mind. However, schools across the district are working to continuously improve their curriculum to ensure it is aligned to the senior defense, as all high school seniors are expected to successfully pass their senior defense in order to graduate.

To ensure that students are equitably prepared for this experience, the Pasadena Unified College and Career Academy Office supports school-level implementation of the senior defense. The Office convenes monthly meetings of senior defense site coordinators, who are secondary school librarians tasked with leading the process alongside school administrators. The College and Career Academy Office also plans districtwide professional learning sessions focused on the senior defense. In 2018–19, staff organized a full-day training at which 12th-grade students from across the district gathered to present and defend their work in front of an audience of teachers. This session provided teachers an opportunity to practice scoring student presentations using the district rubric. The future of these professional learning sessions, however, is unclear as the district and the teachers union address the ways in which districtwide professional learning time can be used to ensure that teachers evaluate student work consistently. One possibility is that school administrators will take greater ownership of providing this type of professional learning opportunity for teachers, as implementation of the senior defense graduation requirement continues.

The local context for the three districts studied underscores the unique approaches they have each taken to implementing performance assessment initiatives.

Key Conditions for Implementing Performance Assessments

The performance assessment initiatives in Los Angeles Unified, Oakland Unified, and Pasadena Unified ask much more of students and teachers than is required by multiple-choice questions on standardized tests. Students must conduct research, reflect on their work, and present their learning in a public setting while their teachers (and at times peers and community volunteers) assess them using shared rubrics. Teachers must not only guide students through this experience, but they must also design lessons and assignments that address the skills necessary to succeed in this process. Given the demands of this work, it is important to consider the key conditions that need to be in place at the district, school, and classroom levels in order to implement high-quality performance assessments. The following discussion draws upon interviews and focus groups conducted in all three districts with 12th-grade students, their teachers, and school and district administrators involved with implementing performance assessments.

Foundational Policies and Practices Related to Performance Assessments

Although each district took a different approach to establishing policies in support of performance assessments, the common link across all three was the presence of some sort of formal commitment—such as a board-approved districtwide requirement or structured onboarding process—to legitimize the work. These policies served not only to outline high-level expectations related to the performance assessment initiative, but also to establish a vision for this new approach. They also signaled the importance of the initiative to educators within the districts, who are faced with many competing priorities on any given day. This section discusses each district policy, starting with the most prescriptive policy, along with practices related to the policy.

Pasadena Unified

Pasadena Unified has **board-approved graduation requirements** in place that are aligned with a **board-approved graduate profile**. The graduate profile describes students who are critical and creative thinkers, effective communicators and collaborators, culturally competent citizens, healthy in mind and body, and prepared for college and career.⁶² The graduation requirements state that starting with the Class of 2019, all students must “complete a senior defense portfolio,” in addition to completing at least 40 hours of community service with a nonprofit organization or work-based learning (i.e., job shadowing or internship) and 220 academic credits (including a semester each of health and—starting with the Class of 2021—career and technical education).⁶³ According to district documents, these requirements address 21st-century skills (communication, collaboration, critical thinking, and creativity/innovation), college and career readiness, global citizenship, cultural competency, and “other attributes for graduates to lead a healthy life.”⁶⁴ The senior defense is designed as an opportunity for students to showcase their academic achievement and proficiency in 21st-century skills, as well as to reflect and refine their learning and growth.

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Throughout their 4 years of high school, students select their best work samples to upload in a digital portfolio, along with a reflection on each artifact. The senior defense process culminates for students in 12th grade as they select two to four graded artifacts from their portfolio, representing different disciplines, to present. According to district policy, the senior defense must include:⁶⁵

- A six- to eight-page research paper as evidence of critical thinking, use of evidence to support claims, and critical reading ability
- A creative project or other artifact showcasing innovative solutions, processes, or products
- A three- to five-page reflection paper as evidence of written communication skills and ability to reflect and assess growth and progress.

For the accompanying defense of learning, students share the artifacts from their portfolio in an 8- to 10-minute individual presentation in front of judges, who may include teachers and peers, as well as community, business, and postsecondary partners. These graduation requirements reflect the Pasadena Unified graduate profile, which was developed with the input of many stakeholders, and are aligned with the district’s vision and mission. All graduate portfolio artifacts, along with student presentations, are graded using district rubrics developed by the College and Career Academy Office in collaboration with technical assistance partners.

Oakland Unified

Oakland Unified took a different approach to establishing formal policy and practices in support of performance assessments, first establishing **board-approved graduation requirements** in 2005 that include a senior project, and then developing an opt-in professional learning process for teachers featuring an enhanced version of the senior project called the graduate capstone. The long-standing district graduation requirements have called for students to complete a “serious research project or exhibition which demonstrates achievement of school-wide learning goals and designated key content standards,” in addition to earning a minimum of 230 credits and maintaining a minimum 2.0 grade point average.⁶⁶ Because the guidelines for a “serious research project or exhibition” were not well defined, district leaders identified a need to increase the level of consistency and rigor associated with the senior project.

Rather than attempting to revise the district graduation requirements, as in Pasadena Unified, Oakland Unified leaders decided to build upon the senior project through a collaborative process. Similar to Pasadena Unified, this process included developing a **graduate profile** with the input of multiple stakeholders (which was not board-approved at the time it was developed, although a revised version was recently approved by the Oakland Unified Board of Education).⁶⁷ The process also included developing district rubrics for the senior project research paper and presentation. Collectively, this work became known as the graduate capstone. Teachers could then opt in to implementing the graduate capstone by using the district rubrics and attending associated professional learning sessions. Students participating in the graduate capstone define an original research question, conduct literary and/or field research, write a formal paper, and present their process and findings. In addition, students at some schools complete a civic action project to accompany their research paper. Oakland Unified approached the graduate capstone not as a new mandate, but rather as an opt-in effort to increase the consistency and rigor of an existing graduation requirement that laid the foundation for the new initiative.

Los Angeles Unified

Los Angeles Unified took yet another approach to establishing a formal policy in support of performance assessments. The Los Angeles Unified team has created a **structured onboarding process** for educators who want to establish a Linked Learning pathway. The onboarding process includes committing to implementation of a portfolio and defense for their students. This process, overseen by the Los Angeles Unified Linked Learning Office, is designed to ensure that staff in schools or small learning communities are well versed in the requirements of Linked Learning, including the portfolio and defense.

The onboarding process includes a formal written application (with a master schedule for the following school year addressing cohort scheduling, teacher planning time, and professional learning), a half-day site visit from district leaders, and structured conversations between district and school leaders. Representatives from applicant sites must attend a Linked Learning information session and then hold a mandatory faculty meeting to discuss implementation at their site, with three fourths of the full staff attending all orientation sessions. Staff from the Linked Learning Office use a readiness rubric to assess applications.

Once the commitment to Linked Learning has been made, all pathways are required to implement the portfolio and defense once they are ready (usually within 2 to 3 years of starting up). The portfolio and defense itself requires students to develop and present a portfolio of their work, including essays, research papers, art projects, and science labs, which represents their academic preparedness, work readiness, and personal accomplishments. As in the other two districts, Los Angeles Unified's district leaders have developed rubrics to assess student work and presentations for the portfolio and defense, although use of these rubrics is not mandated.

In all three examples, formal policies set the foundation for implementing the performance assessment initiative throughout the district, as well as promoting continuity through school- and district-level leadership changes. The practices described here are collaborative in nature, and the policies have evolved over time in response to the needs of students, families, and educators.

Key Starting Conditions

We found that it is important to have several key starting conditions in place when first introducing performance assessments within a district:

- Technical assistance, including professional learning supports
- Opportunities to observe performance assessments in action
- A strategy to develop and scale performance assessments

These conditions were in place in all three districts, although each element looked slightly different depending on the local context and the stage of implementation.

Technical assistance

Technical assistance played an important role in all three districts, and a common set of organizations contributed their expertise. Both before and during implementation of the senior defense graduation requirement for the Class of 2019, Pasadena Unified had access to technical assistance providers who supported professional learning within the district. These providers

helped develop validated scoring rubrics, offered assistance with planning for high-quality professional learning opportunities, and provided training to educators at the school and district levels. Similarly, leaders in Los Angeles Unified and Oakland Unified worked closely with technical assistance providers to support professional learning by developing trainings, shared rubrics, and related resources, such as the revised Oakland Unified graduate profile. An assistant principal from Los Angeles Unified shared:

Being able to go to professional development with ConnectED and also with Envision Learning Partners was helpful because it really helped us fine-tune and refine our ideas, especially back in those 2013 days, when we were trying to come up with a set of outcomes. Those outcomes are still some of the best. It took so long to write them, but they are still some of the best things that we created as a staff.

Organizations that provided technical assistance and professional learning opportunities to one or more of the districts include ConnectED, EdLeader21, Envision Learning Partners, the Linked Learning Alliance, and SCALE. CPAC—the network that supports the districts in this study—helped facilitate these efforts. While CPAC does not itself provide technical assistance, it serves as a support network to connect practitioners with partner organizations that offer this expertise. CPAC’s work takes place through convenings that bring together school and district leaders with researchers and technical assistance providers, including many of the organizations mentioned here.

Opportunities to observe performance assessments in action

Opportunities to observe performance assessments also played an important role across the districts, in terms of educating stakeholders, garnering buy-in, and ultimately seeking shared ownership of the work. For example, the starting point for Los Angeles Unified’s portfolio and defense model was a visit to Envision Academy of Arts and Technology, a charter high school in Oakland, CA, that is part of the Envision Schools network, to observe a portfolio defense in action. This experience inspired district leaders in the Linked Learning Office to implement “Defense Design Studios,” which are trainings hosted by Envision Learning Partners at schools implementing the Los Angeles Unified portfolio and defense. At these trainings, Los Angeles Unified community members, educators, partners, and policymakers learn about the portfolio and defense model, hear from staff at the host site, and observe a real-time student defense presentation. As a district administrator explained:

Opportunities to observe performance assessments also played an important role across the districts, in terms of educating stakeholders, garnering buy-in, and ultimately seeking shared ownership of the work.

I’ve never seen anybody come in and see one of our design studios ... and not feel bought in. That’s why we’ve instituted all these practitioners’ centers. I think it’s so important because people need to go and see it.

In addition, educators in Linked Learning pathways have an opportunity to observe student presentations and align—or calibrate—their scores, prior to implementing the portfolio and defense at their sites. The Los Angeles Unified Linked Learning Office also frequently invites district administrators and partners to observe student defenses in order to broaden their understanding of and support for the work.

Similarly, in Pasadena Unified, district and school leaders, teachers, community members, board members, and a city council member had opportunities to see students from the Class of 2019 present live defenses of their work. Multiple interviewees described this experience as “a lightbulb moment” both for understanding what the portfolio defenses were and for seeing their potential benefits. For example, a teacher shared:

That day I was sold that this [senior defense] is worthwhile for our students. I’ve seen 10 so far on 2 different days, and I think that’s where the most buy-in has come from.... It was pretty amazing to see.

In Oakland Unified, central office staff regularly invite district and school leaders to observe student defenses in order to increase their understanding of and support for the graduate capstone. By observing students at different sites present their graduate capstone work, educators at the district and school levels are able to gain a deeper understanding of the value of the graduate capstone, along with a better sense of how student work varies across sites and where there may be opportunities to improve implementation. In turn, participants add value to the process by participating on judging panels and/or providing feedback to school staff on what they have observed.

A strategy to develop and scale performance assessments

A strategy to develop and scale performance assessments is in place for each of the three district performance assessment initiatives. In all three districts, the strategy has evolved over time in response to changing needs at school sites. The starting point has been a clear vision for how students should experience the process. Then, through a combination of professional learning, technical assistance, and direct support, all three districts have developed and refined their approach by learning as they go and maintaining a focus on high-quality implementation. This process is neither a top-down nor bottom-up approach. Rather, it evolves organically through leadership at both the district and school levels.

For example, Pasadena Unified planned to gradually roll out implementation of the senior defense graduation requirement for the Class of 2019, starting when the district’s Board of Education approved the new policy in 2014. This approach allowed schools flexibility to decide when and how to start implementing the new requirement and enabled the district to develop appropriate supports. The plan defined the role of site coordinators (high school librarians) who would oversee the senior defense process. The plan also included provisions for districtwide professional learning opportunities related to the senior defense and addressed supports for English learners and students with Individualized Education Programs (IEPs).

Both Los Angeles Unified and Oakland Unified have implemented opt-in strategies that support teachers coming together in a community of practice. Teacher-to-teacher interaction plays a key role in supporting high-quality implementation of performance assessment initiatives, because

teachers are working directly with students and can also contribute to building the district-level initiative over time. In Los Angeles Unified, educators can opt in to Linked Learning, whereas in Oakland Unified, educators can opt in to using the graduate capstone rubrics.

Both districts are developing the next phase of their plans. In Los Angeles Unified, district and school leaders are currently considering how experienced Linked Learning pathways can implement the portfolio and defense more independently while still receiving an appropriate level of support from the central office. The Los Angeles Unified Linked Learning Office is also focused on onboarding additional schools to the portfolio and defense, including non-Linked Learning schools. Similarly, district and school leaders in Oakland Unified are thinking about how to continue onboarding more educators to the graduate capstone while still maintaining an opt-in approach to professional learning and the use of district rubrics.

Across the three districts, the key conditions that support implementation included both technical assistance and observing performance assessments in action—particularly live student presentations. As the old adage goes, seeing is believing. The third key condition that all sites shared: a thoughtful implementation strategy that addresses supports for educators and students and has evolved organically over time in response to school site needs.

Supportive State and Local Policy and Practice Environment

At both the state and local levels, a supportive policy and practice environment played an important role in the implementation of performance assessment initiatives in Los Angeles Unified, Oakland Unified, and Pasadena Unified. This included the Common Core State Standards (CCSS) focus on deeper learning competencies, as well as Linked Learning and related state-funded initiatives such as California Pathway Academies and the California Career Pathways Trust—all part of an effort to more closely align education with the changing nature of workforce and society.

Deeper learning competencies and Common Core State Standards

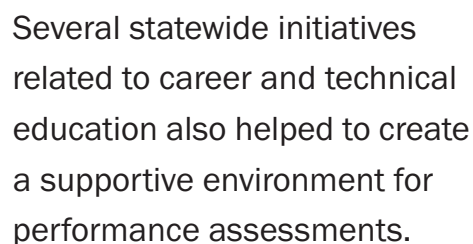
Several state policies seeded the conditions for districts to implement performance assessment initiatives. These policies created an opportunity for local practitioners and policymakers to develop new approaches to assessment. For example, California's adoption of the CCSS in 2010 and subsequent assessment of the CCSS through the Smarter Balanced Assessments, starting in the 2014–15 school year, placed a greater emphasis on deeper learning competencies such as content mastery, critical thinking, and problem-solving,⁶⁸ which performance assessments are designed to measure. In addition, the California High School Exit Exam, a largely multiple-choice standardized test that was a graduation requirement for all California students, was suspended in 2015, in part due to its lack of alignment with the CCSS.⁶⁹ This renewed focus on deeper learning, brought about in part by the CCSS and in part by the opportunity to consider other graduation requirements, filtered down from the state to local districts. For example, the Pasadena Unified senior defense arose as a result of district leaders observing broader education policy shifts within the state and, in response, focusing curricular reform efforts on supporting the development of deeper learning competencies and identifying a shared vision for how to effectively prepare students for college and career.

As one district staff member in Pasadena Unified described it, “When California switched over to the Common Core, we [district staff] were following a lot of what the potential changes would be.” She also recalled that the district’s chief academic officer at the time was “deeply involved with the ACSA [Association of California School Administrators],” which held meetings to discuss the shifts in assessment policy and movement toward performance assessments.

California initiatives related to career and technical education

Several statewide initiatives related to career and technical education also helped to create a supportive environment for performance assessments. For example, California Partnership Academies (CPAs) were introduced as a statewide pilot in 1984 to provide a “school-within-a-school” experience to improve learning outcomes for “at-risk” (now referred to as “at-promise”)

students.⁷⁰ These academies connected with career and technical education in one of 15 industry fields, such as business and finance or engineering and architecture.⁷¹ In Pasadena Unified, CPAs contributed to the establishment of College and Career Academies, laying the foundation for eventual implementation of the senior defense.



Several statewide initiatives related to career and technical education also helped to create a supportive environment for performance assessments.

Similarly, in 2013 the California Career Pathways Trust (CCPT) was signed into law, with \$250 million in state funding awarded for regional and local implementation grants.⁷² The purpose of these grants was to establish or expand career pathway programs in grade 9 through community college, which would prepare students for high-skill, well-compensated jobs. The 2014 Budget Act awarded an additional \$250 million in state funding for CCPT grants, as the Legislature codified CCPT into the California Education Code.⁷³ Many districts used the funding from CCPT grants to support Linked Learning pathways, which typically implement performance assessments.

Linked Learning

The California Linked Learning District Initiative—which brings together rigorous career and technical education with a college preparatory curriculum in industry-themed pathways within schools—launched in 2009 as a statewide pilot with philanthropic support from the James Irvine Foundation. All three districts in this study were part of the initial pilot effort. In 2011, Assembly Bill 790 established a statewide Linked Learning pilot, which ran through the 2016–17 school year.⁷⁴ Over the course of the pilot, nearly \$2.5 million in funds were distributed.⁷⁵ The California Department of Education selected 63 districts and county offices of education, many of which collaborated by forming consortia, to pilot Linked Learning high school programs starting in the 2013–14 school year.⁷⁶ Linked Learning has now expanded to more than 500 schools across 100 California districts.⁷⁷

Linked Learning has played an important role in supporting the development of district performance assessment initiatives, because the focus on hands-on, meaningful instruction and assessment in pathways provides a natural environment for students to develop the skills needed to succeed on a culminating performance assessment. For educators in Linked Learning pathways, performance assessments are not just an add-on that is nice to have; they are a core element of the instructional approach. An assistant principal in Los Angeles Unified shared:

[The portfolio and defense work] is so intertwined with Linked Learning that it's hard to separate those two concepts out right now.... What's nice is that, with Linked Learning, you have this school space and staff that are open to this work. But there's also an inherent belief in college and career, and these programs are focused on performance assessment anyway. It's just a nice connection to that work.... [The] funding for Linked Learning and additional resources related to the training for teachers certainly helped with the implementation as well.

As described in the District Context section that begins on page 10, each of the three districts in this study has made a commitment to implementing Linked Learning and, in the years after the pilot, has devoted district funds and staff time to the work. Oakland Unified has invested in a wall-to-wall approach to developing Linked Learning pathways, with a goal of enrolling all 10th-grade students in pathways for the 2020–21 school year. The district's commitment to Linked Learning extends as far as reorganizing the central office overseeing high school instruction as the Linked Learning Office, which is home to the manager of performance assessments, a district leadership role responsible for supporting graduate capstone implementation at school sites. Oakland Unified has also received important financial support from Measure N, a citywide parcel tax passed by voters in 2014 that supports Linked Learning—including the graduate capstone work—at the site level.

In Los Angeles Unified, the extensive onboarding process for sites opting in to become Linked Learning pathways and the positioning of the Linked Learning Office under the Division of Instruction are strategies to encourage the spread of Linked Learning and its key components, including the portfolio and defense. In Pasadena Unified, both students and educators described the value of ensuring that all students have access to a small learning community, supportive staff, and hands-on learning opportunities—as can be found in College and Career Academies—as they prepare for the senior defense. For example, a district administrator shared that “students who are in our Linked Learning Academies were demonstrating all of these skills [associated with the graduate profile] because of the [projects and] because of the internships that they did.”

The shift toward the CCSS and away from the California High School Exit Exam, as well as state funding and support for Linked Learning and other related career and technical education initiatives, created opportunities in all three districts to focus on deeper learning competencies and assess student learning in an innovative way. Promising policies that are currently underway or under consideration in California include the implementation of the Next Generation Science Standards and the associated California Science Test, which includes performance tasks, as well as the State Seal of Civic Engagement, which is currently under development and calls for students to create a hands-on project as evidence of civic learning.

High-Quality Professional Learning Opportunities

In all three districts studied, central office staff carefully planned for and organized professional learning opportunities focused on the district performance assessment initiatives. Developing common expectations for student work and calibrating scoring practices among teachers played a central role in these sessions. These activities helped teachers to develop a shared understanding of high-quality performance assessments and how these assessments should be implemented. In many cases, these sessions were opt-in by nature, meaning that the educators who chose to join were committed to collaborating with their peers through a community of practice. Research suggests that sustained, collaborative, active professional learning opportunities are effective for teachers.⁷⁸

Central office staff carefully planned for and organized professional learning opportunities focused on the district performance assessment initiatives. Developing common expectations for student work and calibrating scoring practices among teachers played a central role in these sessions.

In Oakland Unified, the Linked Learning Office organized professional learning that took the form of opt-in sessions focused on developing teacher capacity across sites. The sessions were organized as a multipart sequence of sessions throughout the school year. In these sessions, teachers calibrated their scoring of performance assessments and, therefore, clarified expectations about the rigor of the graduate capstone. The sessions also provided opportunities to share promising practices across school sites. Importantly, the central office staff leading these sessions acknowledged teachers' professionalism by offering a stipend for attending after-hours meetings, providing dinner, and encouraging children of participants to join (if child care was difficult to arrange). District leaders said that these sessions have increased buy-in for the graduate capstone, which they felt is due, at least in part, to their intentional opt-in approach. This approach ensures that participating teachers have committed by choice to be part of an effort to strengthen the graduate capstone throughout the district. According to an instructional coach:

The district professional learning ... has been a real morale boost for teachers because ... [the Manager of Performance Assessments] has a way of really honoring teachers' time and really trusting their own expertise about their own class, their own students, their own pathway.... He's done a great job of not only providing really clear, high-quality professional development with a lot of work time, but also acknowledging that teachers' time is valuable by paying them from district office funds, rather than expecting teachers to somehow negotiate with their site administrators.

Similarly, the Los Angeles Unified Linked Learning Office led professional learning sessions that involved teacher teams from Linked Learning pathways attending portfolio and defense workshops, as well as trainings on more general topics related to performance assessments such as how to develop, administer, and score high-quality math tasks. As in Oakland Unified, these sessions were organized into a multipart sequence that progressed throughout the course of the school year. These professional learning opportunities are collaborative in nature (with teams of

teachers attending together), contribute to a shared focus on the rigor of student work through scoring calibration exercises, and acknowledge the expertise that teachers bring to the work. One participant explained:

[The district is] constantly allowing teachers to reflect on their practices [and] their teaching strategies, allowing them to learn new strategies, [and] allowing them to go to workshops to improve their pedagogy skills [and] improve their knowledge.

The professional learning plan in Pasadena Unified is still evolving, given that the district started implementing the senior defense during the 2018–19 school year. Since the passage of the districtwide graduation requirement in 2014, Pasadena Unified has held a number of professional learning sessions for teachers and staff. For example, all 9th-grade English teachers had a full-day professional learning session focused on how to teach students to evaluate various sources, an important skill for the research paper element of the graduate portfolio. In addition to this content-specific professional learning, all high school teachers participated in two professional learning days in which they were introduced to the portfolio and defense process.⁷⁹ In the first full year of implementation, central office staff also organized a full-day professional learning session at which all teachers were invited to calibrate their scoring of student presentations by judging real-time senior defenses. Participants expressed a deep appreciation for this experience. For example, a teacher shared:

I did think the [professional development] day was very helpful.... I mean, it couldn't have gone any better.... I felt trained. I felt well equipped to moderate a panel of adults and [to] see senior defenses and [know] what questions to ask kids and what [a senior defense] should look like.

Across all three districts, participants expressed an appreciation for the opportunity to come together to collaborate, build community, and develop shared expectations for the rigor of student work and the scoring of presentations. They appreciated the efforts of central office staff to provide learning opportunities that were well thought out and acknowledged the expertise that teachers hold about effective implementation of district performance assessment initiatives at school sites.

Strong Teacher Leadership, Support, and Recognition

Across the three districts, we observed teachers and other staff taking on a variety of responsibilities to support the implementation of district performance assessment initiatives. These responsibilities included scheduling student defense presentations, recruiting judges for the presentations, and developing systems and supports to ensure students were prepared to complete the process. This teacher leadership served as a vital source of support for school-level implementation. In many cases, teachers received extra planning time and compensation in acknowledgement of their efforts.

It is important to note, though, that the need for additional planning time, more compensation for extra hours worked, and additional staff positions to share in the work was still identified, in all three districts, as a challenge to making implementation more sustainable. The extent to which these added supports were available varied across sites, depending on the size and organizational structure of the school as well as the extent of support from school administrators—which included allocating site-level budget resources for these purposes.

In Oakland Unified, many of the teachers who regularly attended the professional learning sessions organized by central office staff also led graduate capstone implementation at their school sites, which in some cases included teaching a yearlong graduate capstone course. These teacher leaders also organized their colleagues to mentor students throughout the graduate capstone process and to serve as judges during student presentations. A district leader explained:

Teachers are the best salespeople to their own colleagues.... We've got to let them be the ones to say this is good, this is worth doing.... Figuring out who those [teachers] are [who] are naturally able to model reflective practice, [who are] willing to sit through vulnerability and risk-taking, [and who are] open to sharing ... you can really build off of that.

The teacher leaders in Oakland Unified expressed enthusiasm for their work on the graduate capstone, while also acknowledging the need for additional support from school- and district-level administrators in recognition of their time and contributions. For example, teachers at one school emphasized the importance of the district-provided professional learning related to the graduate capstone and also said that they would like more site-level professional learning opportunities. Teachers at another school noted differences in how their work is acknowledged districtwide, compared to graduate capstone projects at other, more highly resourced schools. These teachers noted that they would appreciate more acknowledgment of the time and effort it takes to ensure that their students succeed on the graduate capstone, as well as additional resources—such as funding for extra staff time—that can support their work at the site level.

Similarly, in Los Angeles Unified, teachers were viewed as professionals, experts, and leaders when it comes to the portfolio and defense. In particular, central office staff planned professional learning opportunities that acknowledged educators' time and professionalism, elevated teacher expertise, and encouraged teacher leadership to tailor the portfolio and defense system to best meet the needs of their students. A participant shared:

When I went to the first PDs [professional development events] that Linked Learning was offering on the performance assessment, ... they were some of the most professional PDs I have ever been to.... It was a beautiful agenda, the treatment of educators along with professionals, everybody was there all together. It wasn't like, "Oh, you're just a teacher." It was very professional, and it felt very real.

At the same time, capacity and sustainability are an ongoing challenge for portfolio and defense implementation in Los Angeles Unified. Teachers raised concerns around lack of compensation for extra hours worked, as well as the need for additional support such as an on-site coordinator to assist with logistics (a position that some—but not all—Linked Learning pathways allocate funds to support). Schools are expected to fund this position at the site level, which can be challenging both in terms of fiscal resources and budgeting autonomy.

In Pasadena Unified, each high school was asked to identify a coordinator to oversee senior defense implementation at the site. High school librarians at each site assumed the role of coordinator and received compensation for the extra time worked. These coordinators played a key role in supporting students at their site and worked hard to ensure a smooth experience in the first year of implementing the senior defense graduation requirement. Site coordinators

wore many hats—supporting students and teachers to prepare for the senior defense, managing logistics for defense presentations, serving on judging panels, and functioning as messengers to make sure students understood the requirements and purpose of the senior defense. A district leader explained:

All of our librarians who are the site coordinators, they've done a phenomenal job putting all this together—everything from identifying students [to] meeting with students. If we don't have a site coordinator, I don't know that this could be done.

At the same time, the site coordinators—and their colleagues—expressed a desire for additional staff time to support the implementation process. For example, teachers at one Pasadena Unified high school expressed a desire for more time allocated for staff to engage in the senior defense process, which would allow for judging panel participation to be more equitably distributed across all teachers. The same teachers also felt that increasing the involvement of their colleagues could help ease the burden on the site coordinator, who was having to review hundreds of student portfolio materials. This, in turn, could help to ensure that only high-quality student work is deemed as “passing.”

Flexibility for Instructional Leaders to Determine Student Supports

Across all three districts, educators expressed the importance of allowing for instructional leaders at each school—including principals, coaches, and lead teachers—to adapt the implementation of the performance assessment process according to the unique needs of their students and community. Although teachers are often the driving force behind successful implementation of district performance assessment initiatives, it is school administrators who have the ultimate decision-making power about how to allocate resources (including time and money) to support this work at the site level. At the same time, central office staff played a key role in supporting school-level implementation. This district-level support was particularly important from an equity perspective (for example, providing guidance about the most effective supports for students who are English learners and those with disabilities—perceived outcomes for these student groups are discussed in the next section of the report).

Educators expressed the importance of allowing for instructional leaders at each school—including principals, coaches, and lead teachers—to adapt the implementation of the performance assessment process according to the unique needs of their students and community.

In Oakland Unified, site-level administrators and lead teachers have flexibility to determine how to support graduate capstone implementation. At some schools, this support took the form of allocating staff time to teach a stand-alone yearlong graduate capstone course that satisfied A-G or Advanced Placement (AP) requirements.⁸⁰ This course provided students with guidance and support for identifying an original research topic, collecting data, writing a research paper, and preparing a culminating presentation.

Because this was a site-level decision in Oakland Unified, there were trade-offs involved in allotting staff time for a graduate capstone course. For example, the course takes time on the master schedule—both in terms of staff availability and in terms of students’ ability to take other courses. In addition, school leaders have many priorities that the central office is asking them to juggle, such as adding International Baccalaureate (IB) or other programming that requires staff time. As a school-level coach in Oakland Unified explained, “In order to really do one thing well with fidelity, we might not be able to do everything.” These trade-offs may also have implications for the equitable allocation of resources related to graduate capstone implementation. For example, if Site A prioritizes the graduate capstone while Site B prioritizes IB, then teachers and students at Site A are much more likely to feel supported on the graduate capstone. In a world of finite resources, these trade-offs may be inevitable.

Other flexible site-level supports in Oakland Unified included providing time in the master schedule for teacher collaboration, using professional learning time for calibration of scoring student work or presentations (which in itself can provide a rich learning opportunity for teachers), and emphasizing vertical alignment of curriculum to the graduate capstone expectations—such as conducting research and presenting work in earlier grades as a way to prepare students for the graduate capstone experience.

Los Angeles Unified provided similar flexibility and autonomy for site-level leaders to determine how to support portfolio and defense implementation. For example, the portfolio and defense at each site assessed students’ mastery of school learning outcomes, which are related to—but distinct from—the district graduate profile, which is currently in draft form. The extent to which site-level administrators and lead teachers had this flexibility and autonomy was influenced by the organizational structure of their schools. For example, in Los Angeles Unified, Pilot Schools had flexibility for staffing autonomy to identify teachers interested in implementing a portfolio and defense.⁸¹ Furthermore, the Elect-to-Work Agreement at these schools calls out the roles and responsibilities associated with implementing the portfolio and defense system.⁸² By contrast, Linked Learning pathways that are structured as a small learning community within a larger school may need to work around the schoolwide master schedule and priorities—such as more traditional standardized testing accountability measures—when implementing the portfolio and defense. A pathway-level administrator in this position shared:

We create a [professional development] calendar based on the [available] information, the Smarter Balanced [Summative Assessments] results, ... our Single Plan for Student Achievement, ... our commitments, and our district initiatives.... We do so much.... We’re pulling horizontally in so many directions, and we’re trying to cover so much.

By contrast, the approach to implementing the senior defense in Pasadena Unified was more centralized since the district was in the first year of rolling out the new graduation requirement for all students. Nevertheless, school librarians in the coordinator role did find ways to be flexible and adapt their approach to meet the needs of students at their sites. For example, one site coordinator called the senior defense a “senior reflection” (even changing the school website so that the language was consistent for parents), because the school community viewed that framing as less punitive and students responded better to it. District leaders have supported these efforts.

Similarly, district leaders in Pasadena Unified have advised school sites to modify the senior defense by allowing students with disabilities to submit fewer portfolio artifacts and alter the defense presentation (e.g., making it shorter or including a paraeducator on the judging panel) in accordance with an IEP or 504 support plan. The district has also advised schools to make similar accommodations for English learners, such as allowing students to partially defend or answer questions in their native tongue.⁸³

Overall, leaders in all three districts sought to maintain a balance between providing centralized support that took into account the needs of all students—including English learners and those with disabilities—and encouraging site-level leaders to tailor supports to the needs of their school community and student population. In some instances, limited resources and competing district priorities resulted in differing levels of support for the district performance assessment initiative across school sites. The next section addresses the outcomes of these efforts for students and teachers participating in the district performance assessment initiatives.

Outcomes for Students and Teachers

As a substantial body of evidence suggests, both students and teachers can experience a range of benefits associated with performance assessments. For students, these benefits can include improved achievement and higher-order thinking, as well as better preparation for higher education.⁸⁴ For teachers, these benefits may include improvements in the quality of classroom instruction.⁸⁵ The current study examined students' and teachers' perceptions of the outcomes of participating in the district performance assessment initiatives. Through interviews and focus groups, 12th-grade students and their teachers and administrators shared the following thoughts about how engaging with performance assessments impacted their educational experience. Overall, students and educators in this study reported a variety of benefits associated with their experience, which were aligned with the benefits reported in the broader evidence base for performance assessments.

Opportunity for Students to Demonstrate Deeper Learning Competencies

Across all three districts, teachers and students reported that the performance assessment initiatives provided students with an opportunity to demonstrate deeper learning competencies, including engaging in critical thinking and “learning how to learn” by reflecting on their experiences and growth.⁸⁶ Research, inquiry, and writing skills played a key role in the performance assessment process in all three districts, as did metacognitive reflection.

As students in Los Angeles Unified Linked Learning pathways assembled a graduation portfolio containing artifacts that represented their academic preparedness, work readiness, and personal accomplishments, they—along with their teachers—reported that they were able to engage in critical thinking and metacognition. The portfolio and defense process helped students tackle complex problems, connect their learning, and build their knowledge across subjects and between school years. This process also afforded students an opportunity to reflect on their learning trajectory over time, on the value of past assignments, on their academic strengths and challenges, and on strategies to improve their work. Students shared that the chance to reflect on their 4 years of high school learning was meaningful and provided a more accurate representation of their learning than a standardized test. As one student explained:

The senior defense communicates academic growth. But you won't really measure it the same way you would a test. [In the portfolio and defense] we're fortifying what we know. We're getting to tell [teachers] what we know.... We're not randomly guessing on a test. They understand what we're taking with us when we depart [high school].

Similarly, through the senior defense process in Pasadena Unified, students had opportunities to demonstrate their research and problem-solving skills, celebrate their achievements, and connect their work to real-world contexts. A district administrator shared how this can infuse the classroom with a sense of purpose:

I think [the senior defense is] exciting, because it allows you to take something you already love to do, and go further and go deeper, and make the connections between what you're learning in a classroom to the things you're passionate about. And I think that's super important because it gives the classroom purpose. Being able to see, being able to use your English skills to write about it, or being able to ... cross over between school and life—to me, that's what tells me you're ready, because you can see that connection, because you use that connection.

By selecting senior portfolio artifacts, Pasadena Unified students also engaged in a metacognitive process of learning how to learn. They were able to become more cognizant of their individual strengths and challenges while identifying strategies to support their ongoing learning.

In addition, Oakland Unified students and educators described how the graduate capstone emphasis on authentic, community-based research and civic engagement—particularly in the form of civic action projects—provided a meaningful learning experience along with an opportunity to develop important analytic skills. These skills included the ability to develop a coherent argument about a complex social issue while acknowledging multiple perspectives, citing relevant evidence, and considering the potential bias of sources. During the 2018–19 school year, students selected topics such as immigration, gentrification, teen vaping, Black women’s health, and police–community interactions, all of which were socially and personally relevant. This pushed students to engage deeply with challenges that they and their peers face and provided them the opportunity to become experts on their topic.

Opportunity for Students to Develop Communication and Presentation Skills

All three districts required students to defend their learning through a presentation of their work, followed by a question-and-answer session with an audience of peers and teachers. This process helped students build their public speaking confidence and develop their ability to ask and answer questions—forms of effective communication, which is another deeper learning competency.⁸⁷ English learners in particular appeared to greatly benefit from the experience.

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In Oakland Unified, both students and teachers felt that the graduate capstone defense developed students’ abilities to present their work in a clear, confident, and organized manner. Seniors often prepared for their final presentation by practicing for underclassmen, family, and/or friends, which helped to increase their comfort level with presenting.

Students who worked in teams on the Oakland Unified graduate capstone also shared that they learned how to communicate with their peers more effectively. For example, one team established a group text in which they could discuss deadlines and challenges and then supplemented this digital communication with biweekly in-person check-ins. The experience also helped some students develop their interpersonal communication skills. One student reflected, “I think it was really good for my group to be with people that I don’t normally talk to on a day-to-day basis. It really helped me to build interpersonal skills.”

In Pasadena Unified, both students and teachers agreed that the senior defense process offered meaningful opportunities for students to hone their presentation skills. Several students shared that they appreciated the ways in which senior defense presentations differed from other presentations they had done in their classes in terms of format (i.e., they presented to a live panel instead of

reading off of a slideshow to their classmates) and content (i.e., they presented about themselves and their learning rather than solely focusing on a topic they researched). The senior defense can be particularly powerful for bolstering the public speaking skills and confidence of English learners, who may otherwise have limited opportunities to present. An instructional coach shared:

I think it also helps [students] with regard to their public speaking, especially our English learners. [They] realize, “Wow, this is part of what lies ahead in my future, and I need to have these skills,” which is part of the speaking, listening, and reading portion of [the senior defense].

Similarly, both students and teachers in Los Angeles Unified felt that the portfolio and defense process developed students’ abilities to present their work effectively, especially for the high percentage of English learners in the district. This experience helped students build their abilities to communicate clearly, confidently, and in an organized manner. Students also discussed how the portfolio and defense helped them understand the importance of being able to share and support their claims and ideas. One student shared:

All of [the academics] we’ve done throughout the years, that’s kind of what we’re emphasizing in this presentation, right? But I feel like communication is what grew the most.... I feel like the communication was pretty much key in order to have a good base for your portfolio.

In addition, both students and teachers in Los Angeles Unified felt that going through this process helped students to become more comfortable expressing themselves and sharing their thoughts and ideas with others. This included, at times, sharing new elements of their personal stories with their teachers. A student explained:

Being able to be comfortable enough to tell [my teachers] my personal statement and why I was able to go to college was meaningful because they’re there to support you and ... they don’t see you just as a student. They see you as a person that’s going to be successful, and they finally get to be personal [and] to understand the struggles you’ve been through.

Greater Confidence in Students’ College and Career Preparation

Students and teachers reported that engaging with performance assessments helped to prepare students for the future demands of college and career by increasing the level of academic rigor to which students were exposed. Students in Linked Learning pathways also had an opportunity to sharpen skills aligned with their industry pathway theme, which could be helpful for their future career aspirations.

For example, students and educators in Los Angeles Unified both shared that the portfolio and defense provided rigorous preparation for college-level work and encouraged students to draw a connection between their high school learning and their postsecondary plans. In defense presentations, students were expected to identify how they would use particular skills and learning outcomes in college and/or career. One student shared:

[Over the] 4 years [in this pathway] and [in our] interdisciplinary projects ... we practice being critical thinkers, we analyze data, and we conduct our own research. Knowing that that’s something that I was going to have to do for my job, my future job—it’s something that I was like, “OK, I see myself doing it now.”

Los Angeles Unified students also noted that the portfolio and defense emphasized the acquisition of technical skills that related to their Linked Learning pathway themes (e.g., performing arts or medicine) and connected to their future career goals. For example, students who attended a performing arts pathway had to include at least one artifact during their defense that featured a project or piece that was completed in their chosen performing arts concentration. Using this artifact, students demonstrated how they had creatively used a set of technical and/or performance skills to accomplish a particular goal or vision. One teacher shared:

We have these kids taking acting classes [who are] not going to be actors, ... but this [portfolio and defense experience] helps them understand what they have learned and how to put it all together so they know that [what they have learned] is ... a life skill. They have a clear performance, a goal, which ... works for a lot of them.

Similarly, Oakland Unified students felt the graduate capstone was rigorous and close to what they might experience in college. For many, the graduate capstone was the most sustained research, writing, and presenting experience that they had encountered thus far in their academic careers. One student reflected that the seniors at his school “all learned that [they’re] capable of ... college-level work, [especially] research and presenting.... I’m pretty sure everyone could say that, even to some extent.” During the 2018–19 school year, some students also had an opportunity to work in teams on the graduate capstone. These students shared that the experience helped them to develop collaboration and project management skills that they felt were essential to future college and career success.

Likewise, students and educators in Pasadena Unified both felt that the senior defense was a promising tool for fostering students’ college and career readiness. Educators shared that the senior portfolio and defense has supported their schools in ensuring that all students are equipped with the key academic skills—such as the ability to conduct research—necessary in college. In the words of one site coordinator:

I think [the students are] more ready for college, especially the ones who might not have been getting the essay, the research paper [taught in their traditional classes]. So [the defense] really pushed research, and a more focused teaching of research, across the board, for both the AP [Advanced Placement]/honors kids and the kids in special [education].

Pasadena Unified students also had an opportunity to reflect on their personal and extracurricular interests and connect those interests to their academic learning in a way that could help to inform their post–high school plans. For example, one student thought the senior defense process would help her in her future in college as an intended marketing major.

Opportunity for Students to Develop Social-Emotional Skills

Students in all three districts felt that the performance assessment process was challenging and provided an opportunity for personal growth and development of social-emotional skills, including perseverance, creative problem-solving, and a growth mindset. Teachers had the opportunity to embed skill development in the overall instructional process in a way that emphasized reflection and improvement, thereby creating new possibilities for growth and agency.

For example, Oakland Unified students felt that the graduate capstone experience taught them to persevere through challenging projects. For example, students described that when contacting community organizations to locate interviewees or internships, they often had to deal with the frustrations of logistical challenges, appointment cancellations, or folks either too busy to talk or not well placed to assist them. This required the students to be persistent with phone calls and emails, as well as to think of creative alternative solutions. Teachers described how they sought to provide appropriate levels of scaffolding in these circumstances, encouraging students to persevere by offering advice and assistance without directly solving the problem. A teacher explained:

It's really amazing getting to sit down with seniors.... They'll [say], "OK, I need your help with this specific thing." And they know what that is, they know what help they need, and then they know when they've got the help.... They just understand that process, ... which I think is one of the most important skills that you need in life, really: how to work out what you don't know, get someone to help you with it, and then move on from there.

Many Oakland Unified students also felt a sense of pride and accomplishment for having overcome the challenge of completing the graduate capstone. As one student described:

[One of the] good parts for me was finishing it, knowing that I turned it in, ... because going through it is pretty hard, but if you really put your mind to it, then it'll be OK.... That's what's satisfying about it.

Students in Oakland Unified also worked to creatively problem-solve when addressing their research questions. For example, in one school studied, a student presented his graduate capstone on oil spills and runoff into the San Francisco Bay. He began his research by learning about different types of oil and how they can pollute in large quantities, such as oil spills. After learning more about the topic, this student identified the potential for pollution that regular cars pose, mostly due to consumers' lack of knowledge and impetus to recycle used oil. He identified recycling centers and recruited friends to recycle their family members' used oil, which he has since considered turning into a low-price business. This student turned his authentic research into a creative, and potentially lucrative, solution to an environmental problem.

Similarly, Los Angeles Unified students felt that the portfolio and defense experience enhanced their ability to persevere through tough challenges. The reflective element of the defense process helped them to adopt a growth mindset (the belief that abilities can be developed through dedication and hard work), both in terms of an increased sense of what they were capable of and as an understanding that their learning is part of a long-term trajectory and is a byproduct of the teaching they were exposed to, rather than fixed intelligence or talent.⁸⁸ One Los Angeles Unified teacher described how the portfolio and defense empowered students: "It just gives them the confidence to do a lot of things, because they feel like if they accomplished this, this thing that seems so daunting ... they can go on and do anything." A student, too, shared those sentiments with us:

I feel the most memorable moment that I had was right after when my teacher told me that I had passed, and I was crying. I felt like I had hope in myself, like I had hope that I could be anything I want as long as I believe in myself and I push myself forward. But you don't really need anybody else to tell you what you can be or you can't be, because you could go as far as you want to push yourself.

Los Angeles Unified students also used rubrics that were aligned to pathway learning outcomes, including problem-solving, to self-assess their progress over time. Students appreciated the opportunity to assess their own growth and learning journey and found this to be a reminder of both their accomplishments and their capability. Artifacts that demonstrate problem-solving are expected to demonstrate students' ability to define a problem and the cause; identify, prioritize, and select alternatives for a solution; and implement and evaluate a solution.

Students appreciated the opportunity to assess their own growth and learning journey and found this to be a reminder of both their accomplishments and their capability.

Likewise, in Pasadena Unified both district- and school-level educators identified social and emotional learning as an important element of the senior defense process. They described working to empower students to take ownership and accountability for completing the senior defense, even in the face of adversity or challenges. Students also felt that the reflective element of the senior defense allowed them to see their growth over time, with some saying the defense was the first opportunity they had to do that. One student shared, "It was one of the only times I could remember that I got to show a way that I grew that wasn't our usual A through G [course requirements for admission to the University of California or California State University systems]."

Opportunity for Schools to Align Curriculum, Instruction, and Assessment

The performance assessment process in the three districts highlighted the importance of aligning curriculum, instruction, and assessment practices across subjects and grade levels at school sites. Where educators saw performance assessment as a core element of teaching and learning, they shifted instruction to build students' skills in advance of the culminating performance assessment. Teachers described a need to start with the culminating defense presentation and backward map their planning to ensure that students were well prepared to select from a variety of rigorous artifacts, develop research products, and present their work.

For example, Oakland Unified teachers who engaged with the graduate capstone in 12th grade shifted their instruction to align with the expectations outlined in the shared district rubrics and districtwide professional learning sessions. Some Oakland Unified educators who taught younger grades also reported shifting their instruction to align with graduate capstone expectations. For example, they assigned more interdisciplinary projects and research papers, as well as more frequent opportunities for students to present their work to peers, in order to build the skills students would need to complete the graduate capstone. A 9th-grade teacher at one site explained:

In our 9th-grade team, for a couple of years we've talked about CER [claim, evidence, reasoning] in various forms [and] how it looks in our different subjects. I've started doing more of that [when teaching math].... [This] helps the students with analysis when they go do their [graduate] capstone project or just whenever they're doing research. So, I really like it when I see it in the [graduate] capstone presentation. I'm like, "Did you really explain all of that detail on this graph?"

When this alignment happened, it did not occur in a vacuum. At one site in Oakland Unified, team members within a Linked Learning pathway described that they met regularly across grade levels to support these practices (although there was a trade-off in terms of meeting time for other types of collaboration). As a result, students in that pathway were able to complete an interdisciplinary project each year in preparation for the graduate capstone. Students in 9th grade began by learning foundational research skills, and in the last 6 weeks of 10th grade students researched an essential question provided by their teacher. In 11th grade, students generated their own essential research question and were assessed using a modified version of the graduate capstone rubric. In addition, at some sites, certain teachers rotated from teaching seniors to teaching younger grades, which allowed them to apply their graduate capstone experience to support vertical alignment of curriculum.

Likewise, Los Angeles Unified teachers developed vertically aligned interdisciplinary curricular unit maps, projects, lessons, and instructional strategies that began in the lower grades and built toward the portfolio and defense in 12th grade. Teachers engaged in backward mapping to plan these vertically aligned resources, meaning that they started by considering the objectives and demands of the culminating portfolio and defense and then designed lessons aligned to the end goal. One teacher shared:

I think all schools ... within Linked Learning [are] starting to [plan backward].... I think it's in doing the portfolio and defense that you really get a sense of what needs to be changed or modified to really help all the students understand everything.... [Students are] having trouble with the context of their lessons and how all of the things fit together. So now, we went through the first round of defenses, and we [realized] ... we need to go back and make sure it's clearer.

In Pasadena Unified, school- and district-level educators saw the need for more opportunities for students to engage in oral presentations, writing and research projects, creative activities, and reflection about their learning. A school administrator reflected on how the site has been able to improve its practices around literacy, in particular:

One of the things [that makes defenses effective] is reexamining those Common Core standards around literacy, especially with writing and research in the content areas, so that it's not just the responsibility of the English teachers. That's something that has surfaced, so we're seeing a lot more discussion—dialogue where we didn't have that before. I think this is, in a positive way, having an impact—that positive pressure of really looking and making sure that what we're doing in class is aligning with what our goals are for the end of [our students'] 4 years here.

The opportunity to backward map and align instructional practices across grade levels and subjects, with a clear goal in mind of preparing students for a culminating performance assessment, can serve as a powerful lever for instructional change.

Opportunity for Teachers to Reflect on and Improve Their Instructional Practice

At the classroom level, the performance assessment process in the three districts helped teachers reflect on the ways that they could better support students. In turn, this led to a continuous improvement approach to their instruction. In particular, when students developed research papers and other portfolio artifacts and publicly presented their work, it quickly became apparent which assignments and areas of instruction had prepared students for success and which required more attention. There was also a sense of symmetry in this process—as students learned deeply and reflected on their growth, teachers learned how to reflect on and improve their instructional practice to support student learning.

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For example, Pasadena Unified teachers across grade levels and subject areas described how the senior defense helped them identify areas for improvement, such as the need for more research projects. Pasadena Unified teachers also described how the senior defense provides an opportunity to determine which assignments are engaging and helping students develop skills (e.g., research) as intended. One teacher explained:

[The senior portfolio and defense] just makes you reflect as a teacher: Am I covering this in class? Am I asking them to think critically? Am I asking them to present [in class] and in a manner that they could present to an audience?

In response, many teachers in Pasadena Unified are shifting their instructional practice to better support students in developing those skills. Importantly, some educators also described how the senior defense requirement helped to ensure that these practices reach students with disabilities and those who are English learners. An instructional coach who works with English learners explained:

I don't have a classroom, but because I get to see [students' senior defense] artifacts they're using, ... it helps me coach new teachers and explain to them the sorts of things or the artifacts the students choose, and it also helps me to reflect on a lot of things as far as the school and what our schools offer, and I've been very vocal about it.

Similarly, Los Angeles Unified teachers indicated that the student portfolio and defense provided valuable information about which assignments were successful and in which areas students lacked a meaningful understanding of the associated concepts. In both cases, teachers were able to use these real-time data to inform future curricular and instructional changes, creating a feedback loop for continuous improvement. One site administrator explained:

I think the senior defense is one of the coolest things we do because it is student work and analysis in real time. It's that the teachers really feel like a mirror is being held up to their own task, like, "If the kid can't explain it, is it because I didn't explain it well?"

Likewise, in Oakland Unified, after grading graduate capstone research papers and observing student presentations at the end of the school year, many teachers shifted their instructional plan for the following school year based on the skills they felt their students needed the most support in developing. Throughout the year, teachers also reported continuously reflecting on their practice through the lens of the graduate capstone and adjusting their instructional practice in real time to address students' strengths and weaknesses. One teacher shared:

Going through this process has definitely made me a better teacher.... Thinking about [student learning outcomes and] the skills that we're teaching.... I [also] think [in a] more interdisciplinary [way] ... now than I did before.

To supplement these teachers' individual and site-level reflections, Oakland Unified's central office staff also attended graduate capstone presentations and collected data on where students could continue to strengthen their skill sets. Administrators then shared this information with teachers and planned the district-led professional learning sessions to support teachers in addressing those areas of instruction through the community of practice they had established.

More Positive Teacher Relationships With Students

In the three districts studied, we found that the performance assessment process can yield rich academic learning and can also help to build closer relationships between teachers and students. This is partly because students are encouraged to bring their own interests and family and neighborhood context into the process, and partly because school staff work closely with students to support them through the experience in their senior year. In turn, teachers can get to know their "students as learners" in more profound ways, give students more ownership in the learning process, and help students to feel better known in the classroom. According to the learning sciences, positive teacher-student relationships are related to student motivation, engagement, learning, behavior, and psychological support.⁸⁹

For example, some Pasadena Unified educators described the senior defense as an effective way to get to know students more deeply. Those individuals felt strongly that this process allowed students to demonstrate unique skills and to talk about themselves in depth, while also facilitating connections between teachers and students. Some educators also talked about how the senior defense helped them to see students' full potential. One Pasadena Unified teacher said:

For me, one of the great positives was [that] the kids that ... typically don't talk and are really quiet and shy in class, when they were given this opportunity they really knocked it out of the park.... I was blown away at that and the learning or the skills that these kids have, that we didn't always see. And so that gave me an opportunity to really see what they could [do] if they were given the opportunity.

Similarly, the Los Angeles Unified portfolio and defense process, including the provision of supports and the defense itself, enabled teachers to get to know their students more closely. During a typical busy school day, teachers may not have an opportunity to learn more about their students' backgrounds, current challenges, and nonacademic concerns. During the process of preparing for and delivering the portfolio and defense, however, students have the opportunity to share their many interests, strengths, and challenges as learners. In some instances, teachers learned about

new elements of their students' personal stories, which helped them to see their students more fully as people. In addition, the portfolio and defense served as an experience shared by all seniors and staff, which had a positive impact on school climate. One teacher shared:

[The portfolio and defense] gives teachers the opportunity to really get to know students and to learn about students' strengths and weaknesses and their own identities in a different way.... And I can definitely see that teachers have some ownership and feel pride in the students who are presenting, [whom] they've helped [prepare]. There's a connection and community development that happens that you don't often get in other school sites.

Likewise, Oakland Unified students who took a graduate capstone class in their senior year—which guided them through the process of developing and presenting their research—reported feeling particularly close to and well supported by their capstone teachers, who invested a great deal of time and effort in working with them throughout the year. Some Linked Learning pathways also provided graduate capstone mentors (i.e., members of the school staff) who worked closely with students on an individual basis. Many students expressed an appreciation for being both supported and pushed to reach their full potential through these relationships. For example, a student shared:

My [graduate capstone] mentor helped me with outside problems [in addition to the graduate capstone]. She was my little therapy, and she helped me a lot inside. She helped me with research [and] revising, and if I was off track with any other classes, she'd text me or email me. Even if it wasn't specifically on capstone, she'd still check up on me. She'd help me with all the classes I had.

Closer Collaboration Between Teachers

Just as teachers and students got to know each other better through the performance assessment process, teachers in two of the three districts studied also reported the opportunity to collaborate closely and develop their relationships with colleagues. This did not emerge as a consistent theme in Pasadena Unified, where professional learning and school-level supports intended to facilitate collaboration were still under development.

Los Angeles Unified teachers reflected that a shared commitment to the portfolio and defense, common planning time, and effective collaboration deepened their relationships with peers, increased collegiality, and contributed to a positive school climate. They explained that common planning time grounded in a common purpose—such as delivering coherent instruction that results in students completing a rigorous portfolio and defense—increased their collegiality as a teaching team. A first-year teacher synthesized the process as follows:

There's [value in the] physical [planning] time ... because we do have structured/unstructured PD [professional development] time where [we] meet in these groups and it's kind of up to us.... That time is productive because of the culture at the school. So, I think that once we get into that little advisory group, there is this culture of everyone trying to help everyone else.

Likewise, Oakland Unified teachers reflected that the need for effective collaboration on the graduate capstone led to efforts to work together, both through professional learning opportunities offered by school- and district-level leaders and through informal relationship-building with colleagues. In some schools, teachers and instructional coaches identified a need to shift the master schedule to increase collaboration time to support the graduate capstone. Site-level professional learning provided another opportunity for enhanced collaboration.

At graduate capstone professional learning sessions organized by central office staff in Oakland Unified, teachers were able to regularly come together to share promising practices across school sites, examine student work, and consider ways to better support the development of skills needed to successfully complete the graduate capstone. A teacher shared:

I appreciate the network.... I can email teachers at other sites and get resources from them and share [my] resources. And I appreciate that even if the project looks different at [other] sites, in general I trust that there is actual work on this happening at other schools.... I get support from that.

The reflections shared by students and teachers participating in the performance assessment initiatives in all three districts demonstrate a variety of potential benefits associated with this symmetrical, student-centered approach to teaching and learning. Successfully completing a high-quality culminating performance assessment takes effort by both teachers and students. The potential rewards of engaging in this challenging process can include both personal and professional or academic growth. The next section considers lessons learned from these districts about what it takes to implement high-quality performance assessments.

Successfully completing a high-quality culminating performance assessment takes effort by both teachers and students. The potential rewards of engaging in this challenging process can include both personal and professional or academic growth.

Lessons Learned and Recommendations

There are many elements to consider when implementing a district performance assessment initiative, from developing a local policy and implementation strategy to procuring technical assistance for the creation of rubrics and trainings to designing professional learning opportunities for teachers and supporting site-level leaders in establishing student supports. The three districts in this study—Los Angeles Unified, Oakland Unified, and Pasadena Unified—are each making progress in these areas while also recognizing opportunities for ongoing improvement. These efforts can benefit both students and teachers in many ways.

This section looks across the performance assessment work taking place in these three districts to consider what lessons can be learned from these initiatives. It also presents seven recommendations for district leaders (since districts are the main focus of our study) and one recommendation for state policymakers. These recommendations may also be of interest to other educators who are considering implementing, strengthening, or advocating for performance assessment initiatives in their own context; to local policymakers who are curious about innovative assessment efforts; and to students, parents, and community organizers who would like to pursue a more meaningful approach to assessing student learning and growth.

- **Lesson 1: Performance assessments can positively influence teachers' instructional practice and students' learning outcomes.** There is a long-standing body of evidence supporting the potential for performance assessments to support student learning outcomes, as well as instructional quality for teachers.⁹⁰ In this study, participating students, teachers, and district administrators reported a number of positive outcomes based on their experience with the performance assessment initiative in their district. These outcomes included an opportunity to build closer teacher–student relationships; to support students in developing and demonstrating deeper learning competencies, social-emotional skills, and college and career readiness; and to encourage teachers to collaboratively reflect on and shift their instructional practice.
 - **Recommendation for district leaders:** To achieve these types of outcomes as part of a balanced system of assessment, consider implementing or expanding performance assessments that focus on rigorous academics, develop social-emotional skills, increase college and career readiness, build relationships, and help teachers improve their instructional practice.
- **Lesson 2: A clear, well-communicated vision—grounded in a shared definition of what students should know and be able to do—can support implementation.** In our case study districts, when implementation went well, educators started with a clear and shared vision for what students should know and be able to do. This vision was accompanied by consistent and effective communications about the effort. A collaboratively developed graduate profile can provide a foundation for district-led performance assessments, since this process identifies student outcomes for college and career readiness that reflect the hopes and dreams of that community. Once an initial vision for graduates is in place, it may become apparent that instruction needs to shift to better prepare students and that existing measures alone are insufficient for assessing the full range of outcomes identified in the profile. This process occurred in Pasadena Unified, where the

effort to develop a district graduate profile led to a districtwide senior defense graduation requirement. Los Angeles Unified took a slightly different approach by developing an initial vision for graduates while working with each Linked Learning pathway to identify school learning outcomes and develop a customized mission and vision for the portfolio and defense.

As we heard from stakeholders in Pasadena Unified, when the performance assessment work is starting out, it is important to focus on clear messaging about both the purpose (the “why”) and the requirements (the “how”) of the new assessment approach. Such messaging, early on, can lead to smooth implementation of a new district performance assessment initiative. This messaging is important for a variety of stakeholders—from families and communities to site- and district-level administrators—ensuring that there is a clearly aligned vision of the “why” and the “how” at all levels of the system. The messaging can be reinforced by tools (such as districtwide rubrics aligned to the graduate profile) and professional learning opportunities (such as the community of practice organized by central office staff in Oakland Unified) that better equip teachers to communicate with students and families. We also heard from school leaders that consistent central office messaging about the importance of this work can also make a big difference to administrators who may be balancing many competing priorities.

- **Recommendation for district leaders:** Develop a collaborative, districtwide vision to guide the performance assessment initiative, accompanied by clear and consistent messaging about both the “why” and the “how” of the work.
- **Lesson 3: Ensuring that performance assessments are aligned with, and integral to, district curriculum and instructional practices can support success.** Implementation of any district initiative, including the performance assessment work described here, does not occur in a vacuum. Instead, it occurs in conjunction with other district initiatives, such as career and technical education, graduate profile development, or social-emotional learning and school climate efforts. Based on our case studies, we found that the extent to which district and school administrators align performance assessments with other district initiatives and center them as integral to these initiatives can ultimately help to propel and sustain their success. For example, Linked Learning pathways in Los Angeles Unified receive central office support in designing performance tasks that align with the CCSS and the Next Generation Science Standards. In Pasadena Unified, senior defense implementation grew out of the district’s long-standing commitment to advancing career and technical education at the secondary level.

Furthermore, fostering alignment of the work across different district offices, such as curriculum/instruction and Linked Learning, can help to support effective implementation, especially in larger districts. In Oakland Unified, the district’s commitment to wall-to-wall Linked Learning in high schools (i.e., its goal of enrolling 100% of 10th-grade students in pathways by 2020–21) has helped to set the stage for continued expansion of the graduate capstone. In support of this goal, the district has reorganized its central office overseeing high school instruction as the Linked Learning Office and funded a manager of performance assessments position within this office. This coherence can signal to teachers, students, and parents that they are invited to share in a vision of change for assessment that is integral to the teaching and learning that is happening in the district.

- **Recommendation for district leaders:** Ensure that district performance assessment initiatives are aligned with existing district curriculum, instruction, and assessment policies and are positioned as integral to teaching and learning in the district.
- **Lesson 4: Professional learning, on-site coaching, staff time, and policies that support implementation are needed to scale up performance assessment initiatives.** In our case study districts, we found that offering high-quality professional learning opportunities and strong supports for teachers contributed to effective implementation of the performance assessment initiatives at scale. Districts and schools had success with supporting teachers when they offered ongoing professional learning opportunities focused on performance assessments (including efforts to vertically align instructional practices across grade levels), when they made coaching available from central office staff and/or technical assistance providers, and when they allocated sufficient time and resources for teachers to coordinate logistics and mentor students. For example, central office staff in both Los Angeles Unified and Oakland Unified lead a community of practice focused on performance assessment for teachers in their respective districts and offer on-site coaching to teachers and principals implementing the district performance assessment initiative.

These efforts to support teachers are most effective when they are responsive to needs at different sites (for example, providing more intensive supports in the early stages of an initiative and offering ongoing support as new teachers and staff are hired). It is also important to include these supports for teachers in an implementation strategy focused on scaling a district performance assessment initiative. For example, Pasadena Unified developed a plan to pay high school librarians to serve as site coordinators and to offer districtwide professional learning sessions for teachers prior to implementing the senior defense graduation requirement for the Class of 2019. By putting these kinds of tangible supports for teachers into place, district leaders can show students, teachers, and parents that the performance assessment initiative is an important priority and has the capacity to succeed.

- **Recommendation for district leaders:** Develop an implementation strategy that includes strong supports for teachers, such as staff time for planning, coordinating, and mentoring students, as well as professional learning and coaching opportunities.
- **Lesson 5: To succeed, students need strong and equitable supports, including access to mentorship, peer supports, time to prepare, and exposure to curriculum that builds relevant skills.** Our case study districts showed that successful implementation of the performance assessment initiative required the sufficient allocation of resources to guide students through the experience. These resources, which included dedicated staff support as well as structures in place to prepare students to succeed, are especially important in the early years of the initiative when students—and their teachers—are still learning about the process. For example, site coordinators such as those in Pasadena Unified can help provide students with consistent guidance about what is expected of them, while other adult mentors—such as the teachers or other school staff involved with the graduate capstone at some Oakland Unified school sites—can provide one-on-one coaching and support. Students in Los Angeles Unified and other districts also served as highly valuable resources for their peers, through formal or informal opportunities to provide each other with feedback and support.

Time to prepare for a culminating performance assessment may take the form of a stand-alone course devoted to supporting students through the process, which some schools in Oakland Unified choose to fund through their site budgets; opportunities to work independently and meet with mentors; or designated work time in content area or advisory classes. The vertical alignment of curriculum across grade levels is also an essential support for students because it can build the skills necessary to successfully complete the performance assessment process. The establishment of advisories and other small learning structures, which happened in all three districts, can help students to feel known and encouraged to tackle challenges, take risks, seek assistance, and share their thoughts and ideas with others.

Of course, providing these student supports requires both creative approaches to organizing time and curriculum and, sometimes, an investment of funding at the school and/or district level to pay teachers and other school staff for the additional responsibilities that they may take on to support implementation at their sites (e.g., stipends or compensation for extra hours worked, additional staff positions). When allocating the resources of time, curriculum, and money, it is important to ensure that participating schools—and the students who attend them—have equitable access to these supports, including across different academic programs (e.g., International Baccalaureate), student demographic groups (including English learners and students with disabilities), and school sites.

- **Recommendation for district leaders:** Equitably allocate sufficient resources across academic programs, student demographic groups (including English learners and students with disabilities), and school sites to ensure that students have the support they need to successfully participate in the district performance assessment initiative.
- **Lesson 6: A performance assessment policy that balances teacher innovation with a shared districtwide vision and clear path to scaling up can increase access and success.** Across the three districts studied, we found that a performance assessment policy can help to legitimize the work and to support consistent and effective implementation. The policy can take different forms (e.g., a board-approved, districtwide graduation requirement and/or graduate profile as in Pasadena Unified, or a requirement for schools opting in to a particular initiative such as Linked Learning in Los Angeles Unified) depending on local context and need.

It is important to keep in mind the potential trade-offs involved with these different options, knowing that context matters and there is not one right answer to the best approach to take. For example, a more top-down approach may reach a larger number of students (and therefore be more equitable from the perspective of a student wanting to access the best possible learning experience), but it may also result in pushback from students, parents, or teachers who do not yet understand or support the work. An approach that invites teachers or schools to opt in may build goodwill and support for performance assessments and may encourage high-quality implementation, but it may also result in uneven access for students in classrooms and schools that do not choose to opt in.

The experiences of our three case study districts suggest that a successful policy for implementing a district performance assessment initiative will be neither a solely top-down nor bottom-up approach. Rather, it will involve balancing a variety of both district- and

school-level efforts and inviting all involved stakeholders—including students, teachers, and families—to collaborate on the initiative. Our data analyses suggest that district leaders could recognize the value of supporting teachers to opt in to a performance assessment initiative, while making it clear that universal involvement is an eventual expectation and creating policy to back this up.

- **Recommendation for district leaders:** Enact a district policy in support of performance assessments that balances an opt-in, collaborative approach with centralized supports and eventual expectations for all students and schools to participate.
- **Lesson 7: A flexible approach that allows educators to create locally appropriate processes, while also providing resources to facilitate structured growth, can support the spread of performance assessments.** Based on our case study districts, we found that it is important to harness the expertise of principals and teachers when implementing district performance assessment initiatives. For many educators, this approach reminds them of what they love about teaching in the first place—an opportunity to get to know their students more deeply and to help them take on complex academic challenges and reflect on their learning. When given flexibility, educators can find innovative ways to adapt the process to the needs of their students and school community, drawing upon their expertise and familiarity with students. For example, one Oakland Unified teaching team decided to shift the individual capstone to a group project and presentation based on the need for students to prepare for group work in college. In Los Angeles Unified, one Linked Learning pathway team designed a 45-minute defense in response to the needs of the student population, while another designed a 15-minute defense. As educators shared their models, they also learned from each other and borrowed successful practices.

The educators we interviewed for this study also highlighted the importance of supporting school leaders to make necessary changes when implementing the performance assessment initiative at their site, such as modifying the master schedule to accommodate student defense presentations or to provide additional common planning time for teachers. These decisions may change over time as the school community becomes more familiar with the demands of the performance assessment initiative or as the school community itself changes.

At the same time, district leaders can and should maintain a focus on high-quality implementation of performance assessments by providing well-structured support and resources with a focus on continuous improvement. This can include improvement guidance (e.g., shared rubrics and professional learning opportunities) and guidelines for equitable implementation (e.g., suggested accommodations or modifications for students with disabilities or English learners) to support consistent and high-quality implementation across schools and student racial and ethnic groups. District leaders can also encourage schools to ground their individualized approach in clearly defined student learning outcomes (e.g., a graduate profile defined by the school or district).

- **Recommendation for district leaders:** Allow sufficient flexibility for schools to make the performance assessment process their own while also providing guardrails for quality and consistency across sites.

- **Lesson 8: State policy can be helpful for creating supportive conditions in which districts can implement performance assessment initiatives.** All our case study districts implemented their performance assessment initiatives within the context of California state policy. Relevant policies included educational standards, assessment approaches, and funding opportunities. As noted earlier, the adoption of new state standards and assessments that are aligned to deeper learning competencies—such as the CCSS and Smarter Balanced Assessments in English language arts and mathematics—played a part in district leaders rethinking their approach to instruction and assessment. The elimination of the high-stakes, largely multiple-choice California High School Exit Exam as a graduation requirement also created conditions that allowed district leaders to think more expansively about how they are measuring meaningful student learning.

State funding plays a supportive role as well, as with the investments that California made in career and technical education through the California Partnership Academies, the California Career Pathways Trust, and the Linked Learning statewide pilot. While not directly focused on performance assessments, these initiatives focused on a hands-on instructional approach that calls for measuring student learning in an active manner and resulted in graduation portfolios.

Promising policies that are currently underway or under consideration in California include the implementation of the Next Generation Science Standards and the associated California Science Test; the development of the State Seal of Civic Engagement; and the continued refinement of the College and Career Indicator as part of the school and district accountability system, which includes multiple measures of college and career readiness. These policies have the potential to further support the district performance assessment initiatives in the case study districts, as well as in other districts that may have similar efforts underway or are interested in starting this work. In addition, the COVID-19 crisis has ended use of the SAT/ACT in college admissions—a policy that was already under consideration by the University of California system. Changes in higher education admissions and placement policies may also allow districts to implement more meaningful approaches to assessment.

- **Recommendation for state policymakers:** Consider opportunities for state policy to support innovative performance assessment initiatives in local districts through educational standards, assessment and accountability approaches, and funding opportunities.

Conclusion

This study set out to answer questions about the conditions that need to be in place for districts to implement high-quality performance assessment initiatives. In doing so, we closely examined the work taking place in three districts that are actively engaged in CPAC:

- **Los Angeles Unified**, which supports a model wherein a growing number of 12th-grade students in Linked Learning pathways defend a portfolio of their work.
- **Oakland Unified**, which encourages 12th-grade students to complete and present their graduate capstone, an original research project.
- **Pasadena Unified**, which requires all 12th-grade students to defend a portfolio of their work in order to graduate.

While the size and local context of each district varies, all have taken on innovative efforts to meaningfully assess student learning in a manner that is aligned to the outcomes they hope all students will achieve by the time they graduate.

Our study found a number of key conditions that supported the implementation of these district performance assessment initiatives. We found that specific policies and associated practices—such as board-approved graduation requirements or a formal onboarding process for Linked Learning—were in place to support the implementation of performance assessments in each district. We also found common starting conditions in place, including the presence of technical assistance providers to develop trainings and rubrics, opportunities for stakeholders to observe performance assessments in action, and an implementation strategy that addressed supports for both teachers and students.

A supportive policy and practice environment was also a factor. At the state level, these supports included the adoption of the CCSS and the associated Smarter Balanced Assessments, as well as implementation of California Partnership Academies, the California Career Pathways Trust, and the statewide Linked Learning pilot. Supports were also important at the local level, particularly in terms of Linked Learning, which integrates a college preparatory curriculum with a rigorous career and technical education course sequence and work-based learning.

High-quality professional learning opportunities for teachers, which were organized by central office staff, played a key role in all three districts, as did strong teacher leadership and support at school sites. It was also important for instructional leaders at school sites (including principals, coaches, and lead teachers) to have flexibility to determine the most effective supports for students at their site, while still receiving guidance from central office staff.

Students and teachers described a number of the benefits of participating in the district performance assessment initiatives. Students experienced expanded opportunities for critical thinking and reflecting on their learning and growth, greater confidence in college and career preparation, improved communication and presentation skills, and growth in social-emotional skills such as perseverance and growth mindset. Teachers reported an increased focus on alignment between curriculum, instruction, and assessment across subjects and grade levels, continuous reflection on and improvement of instructional practice, more positive relationships with their students, and closer relationships with their colleagues.

Based on these findings related to system supports and perceived outcomes, we identified some lessons learned and associated recommendations across the three districts studied. This included the understanding that performance assessments can positively influence teachers' instructional practices and students' learning outcomes, thereby suggesting that performance assessments can play an important role in a balanced system of assessment. We also found that it is important to establish a shared vision for—and clear messaging about—district performance assessment initiatives. In addition, positioning performance assessments as aligned with and integral to district curriculum and instructional practices, such as career and technical education, graduate profile development, or social and emotional learning and school climate efforts, can support success.

In order to effectively implement performance assessment initiatives in districts, our research indicates that it is vital for teachers and schools to receive strong supports. These supports can include professional learning and on-site coaching opportunities organized by the central office, additional staff time for planning and coordination, and supportive policies such as the flexibility for sites to modify the master schedule as needed to accommodate this work. Students, too, need strong supports to succeed on a culminating performance assessment. These supports may include having access to a site coordinator who is able to guide students through the process; receiving feedback from peers who can provide insight, feedback, and encouragement; receiving one-on-one mentorship from a teacher, other school staff, or community volunteer; having time in school to work on performance assessment tasks and presentations; and taking classes that help them build the skills—such as conducting research and presenting—that are necessary to complete the culminating performance assessment.

We also found that a performance assessment policy can balance teacher innovation with a shared districtwide vision and clear path to scaling up in order to increase access and success. Performance assessment policies can take different forms, some more top-down and some more bottom-up, depending on local context and need. A top-down approach may reach more students but trigger pushback from teachers and other stakeholders, while an opt-in approach may build goodwill among teachers but not reach as many students. Ultimately, the experiences of our case study districts suggest that a successful performance assessment initiative will be neither a solely top-down nor bottom-up approach. Instead, it will involve balancing a variety of school- and district-level efforts and will be highly collaborative in nature. District leaders could navigate these trade-offs by recognizing the value of an opt-in approach while making clear that universal involvement is an expectation—and creating policy to back this up. It may also be helpful for district leaders to encourage schools and educators to make performance assessments their own while providing support and resources to facilitate structured growth.

Based on the results of our research, we generated recommendations for district leaders interested in implementing performance assessment initiatives within their own context as well as for state policymakers. The recommendations may also be of interest for other stakeholders—including local policymakers, school administrators, teachers, students, parents, and community organizers—who are seeking a more meaningful approach to assessing student learning and growth. Implementing district performance assessment initiatives is a complicated endeavor, and none of the three districts studied would claim to have all the answers. The value of this work can be found not just in the final outcome, but in the learning and growth that happens along the way.

Appendix A: Methodology

The goal of this study was to document the implementation of performance assessment initiatives in three California districts: Los Angeles Unified School District, Oakland Unified School District, and Pasadena Unified School District. This report is accompanied by an individual case study for each of the three districts.⁹¹

Site Selection

The Learning Policy Institute (LPI) chose the three districts for this study because they each represent a different approach to implementing performance assessments across multiple school sites. All three districts were also actively engaged with the California Performance Assessment Collaborative (CPAC) and, therefore, had support from this network to reflect on their implementation efforts and use the case study research for continuous improvement.

To inform this report, we also selected three schools within each district for data collection—nine schools in total. The schools are not named in this study in order to protect the anonymity of the educators and students we interviewed. These school sites were selected in consultation with the district administrators most familiar with each school’s work around performance assessments. The researchers and these administrators chose school sites that represented the range of performance assessment work being carried out by schools in the districts. In defining the range, the research team considered factors such as the amount of time a school site had been implementing performance assessments as well as existing schoolwide structures (such as strong Linked Learning pathways). In selecting the sample, the research team also selected a range of school sizes and selected schools whose student demographics did not significantly vary from those of the district at large.

In Los Angeles Unified School District, we studied Linked Learning pathways at three different sites with varying levels of experience implementing the portfolio and defense:

- **Pathway A:** An autonomous Pilot high school with approximately 400 students. We classified this as an “experienced” site because educators there had implemented the portfolio and defense for 10 years.
- **Pathway B:** An autonomous Pilot high school with approximately 800 students. We classified this as a “midrange” site because educators there had implemented the portfolio and defense for 5 years.
- **Pathway C:** A comprehensive high school, Pathway C is a small learning community with approximately 400 students. We classified this as an “emerging” site because educators there were in their second year of Linked Learning implementation and their first year of portfolio and defense implementation.

In Oakland Unified School District, we studied three different schools with varying levels of experience with and approaches to implementing the graduate capstone:

- **School A:** A combined middle and high school that operates as a small learning community with one Linked Learning pathway. School A has approximately 500 students and was in the first year of implementing a new approach to the graduate capstone.

- **School B:** A comprehensive high school with approximately 1,600 students and multiple Linked Learning pathways. Some of these pathways had multiple years of experience implementing the graduate capstone, while others were in their first year of doing so.
- **School C:** A midsize high school with approximately 800 students and multiple Linked Learning pathways. The school, as a whole, had implemented the graduate capstone for over 5 years.

In Pasadena Unified School District, all high schools were in their first year of fully implementing the senior defense at the time of the study. We selected three schools with varying sizes and structures:

- **School X:** A combined middle and high school with approximately 1,000 students in 6th through 12th grade.
- **School Y:** A combined middle and school with approximately 2,000 students in 6th through 12th grade.
- **School Z:** A comprehensive high school with over 1,500 students in 9th through 12th grade.

Research Questions

LPI collected data to address the following research questions:

- What are some of the external factors that influence these three districts' ability to develop and scale high-quality performance assessments?
- How do these districts build the infrastructure for developing, implementing, and scaling high-quality performance assessments?
- How are participating schools building the systems and structures for developing, implementing, and scaling high-quality performance assessments?
- How are participating teachers using high-quality performance assessments to support student learning through their curriculum and classroom practices?
- What are the perceived outcomes for teachers of participating in high-quality performance assessments?
- What are the perceived outcomes for students of participating in high-quality performance assessments?

Data Collection

We used a case study approach to address these research questions. Case studies allow researchers to investigate real-life phenomena in context, generating understandings of a phenomenon and its interplay with its environment.⁹² The majority of the data were collected from October 2018 to June 2019 by a six-person research team, which subdivided into two- or three-person research teams to collect data in each district. In addition, the research team conducted interviews with educators in April 2020 to understand how schools in the district responded to the COVID-19 pandemic (Appendix B). We used data from a range of sources, including documents, district administrative

data, interviews with a range of personnel at the district and school levels, focus groups with teachers and students, observations of student performance assessments, and observations of professional learning opportunities for teachers (Table A1).

Table A1
Study Interviewees, Focus Groups, and Observations

Interviewee Roles	Los Angeles Unified	Oakland Unified	Pasadena Unified
District Administrator and Staff Interviews	4	5	7
Principal and Assistant Principal Interviews	3	3	3
Teacher Leader, Instructional Coach, and Site Coordinator Interviews	3	4	3
Teacher Focus Groups	3	3	3
Student Focus Groups	3	3	3
Observations of Students' Graduate Capstone Defenses	27	49	49
Observations of Teacher Professional Learning Sessions	5	4	1

To develop protocols for data collection, we conducted a review of the literature. We also drew on the researchers' experiences in supporting the districts through the California Performance Assessment Collaborative (CPAC) network. With this work as a base, we identified factors we wanted to inquire about during data collection (e.g., professional learning opportunities available to teachers). We next constructed semi-structured interview, focus group, and observation protocols to help us better understand the previously identified factors and to surface any other conditions that might emerge as necessary to support implementation of district performance assessment initiatives at the district, school, and classroom levels.

To analyze the data, the researchers engaged in a multistep process. First, we drafted a preliminary code list based upon the key conditions identified in the literature review. Next, we transcribed all interview, focus group, and observation data. One researcher then coded the data independently in Dedoose, a web-based application for qualitative analysis. This coding included deductive codes based on the literature, as well as inductive codes that emerged during the coding process.

The research team then refined the codes based on the themes present in the data. Once the codes were refined, all research team members engaged in a series of calibration exercises to ensure that they held a shared understanding of each of the codes. After these calibration exercises, researchers applied the codes in Dedoose to interview and focus group transcripts and field notes

about observations. To increase inter-rater reliability, researchers met weekly or biweekly to discuss and compare decisions about the coding process. Document review supplemented the analysis of interviews, focus groups, and observations, serving to describe the district processes.

Ultimately, the research teams triangulated findings across multiple data sources and sought both confirmatory and disconfirmatory evidence to develop illustrations of the key conditions and findings that emerged as well-grounded from the evidence. Each case study draft was reviewed internally by two or three members of the research team, checked by a district leader for accuracy, and revised based on expert peer review.

For the cross-case analysis, the research team leader reviewed the evidence and analysis for each individual district case study and summarized the findings and conclusions that could be drawn across the cases. In doing so, the cross-case analysis accounted for the commonalities across districts, as well as the important ways in which they differed. The team leader then solicited internal feedback from the full research team, vetted recommendations with the CPAC Steering Committee of veteran district and school leaders and technical assistance providers with experience implementing performance assessment (which included a leader from each of the three districts studied), and revised based on feedback from two expert peer reviewers.

Appendix B: Performance Assessments During a Pandemic

In March 2020, California schools and districts moved to distance learning in response to the COVID-19 pandemic. The state suspended required standardized testing on March 17, 2020, and optional standardized admissions tests such as the SAT and ACT were put on hold as well.⁹³ Across the state, districts worked diligently to establish distance learning plans, and many struggled to ensure that all students had access to the internet.⁹⁴ For the three districts in this study, this included plans for whether and how to continue with each district's culminating performance assessments. Our research team conducted interviews with educators in the districts from this study between April and June 2020 to gain an understanding of how this historic event impacted their implementation of performance assessments. Unless otherwise cited, the information below comes from those interviews.

Each district used resources and strategies from their past experiences implementing performance assessments to provide supports and outreach to schools continuing to implement these assessments. In Los Angeles Unified, the Linked Learning Office provided professional development sessions on a virtual portfolio and defense process to teachers in Linked Learning pathways, as well as to teachers trying out performance assessments for the first time. In Oakland Unified, the manager of performance assessments and instructional coaches empowered teacher leaders and administrators to make decisions based on site-specific contexts. In Pasadena Unified, central office staff kept the board-approved graduation requirement in place by providing supports to site coordinators and flexibility to students.

Los Angeles Unified: Pathway-Level Flexibility Supported by Districtwide Professional Development

When the pandemic hit, Los Angeles Unified encouraged Linked Learning pathways to make individual decisions about their culminating performance assessment requirements. Seniors in all pathways had begun compiling their portfolios at the beginning of the school year. Many schools had planned for students to present their work in person after spring break; instead they shifted to distance learning. In Los Angeles Unified, pathway administrators and lead teachers who chose to move forward with a virtual portfolio defense framed it as an opportunity to celebrate student achievement and retain at least one rite of passage for seniors. In these cases, it was optional for students to participate. Approximately 15 pathways moved forward with some version of a virtual portfolio defense out of the 66 total Linked Learning pathways in Los Angeles Unified.

Distance learning interrupted teachers' standard approaches to checking in with and motivating their 12th-grade students. The district also passed a grading policy that prohibited teachers from failing students. These forces pushed educators to rethink student engagement as well as their approach to assessment. Schools that chose to provide the option for students to present their portfolio defenses virtually were typically more established Linked Learning pathways that have a culture around seniors' portfolio defenses as a celebration of student learning. Educators at these schools found that students engaged with the virtual portfolio defense more readily than they did with other assignments. Some educators felt that this may have been due, in part, to students' appreciation of the relevance to them of aggregating and reflecting on their portfolios and preparing to defend their learning. Some schools saw nearly half their seniors complete an optional portfolio defense presentation.

To support educators in shifting this work online, the Linked Learning Office provided virtual professional development support, led by coaches who would otherwise be spending that time at specific school sites. Members of the Linked Learning Office coordinated resources aligned to schools' needs and built out virtual learning modules that were a balance of self-guided and coached activities, as well as digital resources on performance assessment. These learning modules and resources had previously been part of a long-term professional learning plan that the Linked Learning team had not had the opportunity to prioritize. The Linked Learning Office also provided opt-in virtual professional development sessions on other types of virtual presentations of learning and on using Universal Design for Learning (UDL) to establish an accessible portfolio and defense. These professional learning opportunities were open to all teachers in the district, and they had impressive uptake, including with educators who were not part of the Linked Learning initiative. Over 2,400 teachers in Los Angeles Unified chose to attend the professional development session on virtual presentations of learning, representing approximately 10% of the district's teachers.⁹⁵ Members of the Linked Learning Office plan to use the resources that they developed during this time to support onboarding of the senior portfolio and defense moving forward.

Oakland Unified: Site-Based Decisions Grounded in Students' Needs

On May 13, 2020, the Oakland Unified school board voted to temporarily waive the senior project graduation requirement.⁹⁶ By the time the requirement was waived, most schools had determined individual plans to move forward with the graduate capstone—their version of the senior project—as many students had already turned in their research papers and some students had already presented. School sites generally framed any elements of the graduate capstone that were due after schools closed as optional for seniors and avoided any punitive measures for students who were unable to complete their presentations.

The manager of performance assessments encouraged teacher leaders and site-level administrators to decide if and how to continue implementing the graduate capstone at a distance. The manager worked with his team to provide assistance to school sites and prioritize the supports they needed. Most schools required students to complete their graduate capstone papers, many of which were due in mid-March as the pandemic hit, while a majority of the schools in the district chose to cancel oral presentations as a graduation requirement once schools moved to virtual learning. This was especially the case in schools with significant numbers of students navigating unstable Wi-Fi, working essential jobs, or contending with other challenges exacerbated by the pandemic. Those who required students to complete a graduate capstone presentation allowed students to prerecord their presentations, which many students chose to do. In some cases, completing this presentation was framed as a way to improve students' grades.

At one school site, teachers decided that students would be required to complete the research papers that they had outlined and drafted prior to spring break and that they could choose whether to complete a virtual presentation as well. To aid students in completing both the paper and the presentation, the graduate capstone lead teacher and the 12th-grade English teacher reached out to each student in the senior class and had a 15-minute conversation with each of them. They completed these calls together with each student, so as to demonstrate joint buy-in for the decision to move forward with the required paper and optional presentation and also to ensure that students' needs were communicated to multiple adults who could share what they learned about

students' needs across the grade level. As of May 19, 2020, teachers in that pathway noted that most students had completed the paper and estimated that slightly less than 40% of the senior class had uploaded a final presentation.

Pasadena Unified: Districtwide Requirement With Two Options for Students

Pasadena Unified maintained its senior defense graduation requirement throughout school closures. When the pandemic hit, 55% of seniors had already completed their senior defense.⁹⁷ A central office administrator reported that district staff felt “confident the remaining students [would] also be just as successful”⁹⁸ and that upholding the graduation requirement would emphasize how much they valued the senior defense.

In the days before the decision to move school online, district staff convened to create an approach that provided schools with options for students to complete the senior defense and avoided placing students at a disadvantage. This included two options: Students could either present their virtual defenses to a live panel or prerecord their defense presentations and share that recording with their site coordinator, who scored their presentation at a later time.

Because this was the second year in which Pasadena Unified implemented its senior defense, it planned to raise the bar for students to pass, meaning students would need to meet 75% of the criteria on the rubric. Despite the interrupted school year, Pasadena Unified required students to meet that threshold, as planned. However, the district also recognized that some students could not complete their senior defenses, using either option, due to exceptional circumstances. In these cases, students were not held at fault and were allowed to graduate.⁹⁹

Throughout the remainder of the school year, district staff held consistent check-ins with site coordinators to provide supports as needed and to maintain a sense of community. These forums provided site coordinators with the opportunity to connect and share resources that facilitated not only the senior defense, but also distance learning more generally. Shared resources included mini-lessons, online projects, and alternative assessments. Distance learning also pushed teachers' thinking on assessment throughout the grade levels, as they grappled with the challenges of administering traditional tests online.

District staff felt that site coordinators were key to consistent implementation because they had been trained in educational technologies that put them in a position to support both students and teachers in the transition to virtual learning. Site coordinators found that the virtual learning format—despite its challenges—provided an opportunity for more teachers to experience the senior defense. They also found that some students who had been previously disengaged expressed enthusiasm about the virtual defense format, and some were excited to complete live virtual presentations.

Key Conditions That Support Performance Assessments and Distance Learning

Central office staff were vital to the effort to adapt performance assessments to a virtual learning environment. Along with instructional coaches and site administrators, these district leaders provided educators with resources and instructional support that could help them implement performance assessments at a distance. Some of the elements that supported districts in

implementing performance assessments in the past helped with the shift to online learning, including an existing supportive policy and practice environment, high-quality professional learning opportunities, strong teacher leadership, and flexibility for instructional leaders to determine student supports. Los Angeles Unified's Linked Learning initiative provided a foundational focus on deep and authentic learning that the Linked Learning Office built upon with its professional development supports targeting online learning competencies. Oakland Unified's manager of performance assessments encouraged decision-making at the site level and managed instructional coaches who filled in supports as needed. In Pasadena Unified, the College and Career Academy Office leveraged the graduation requirement and the cohort of site coordinators to ensure that all students demonstrated their readiness to graduate by completing a senior defense. Each district ultimately leaned into past performance assessment work to deliver supports and encourage flexible, responsive decision-making during a challenging global pandemic.

Endnotes

1. Great Schools Partnership. (2014). The Glossary of Education Reform. <https://www.edglossary.org/> (accessed 01/11/20); Famularo, J., French, D., Noonan, J., Schneider, J., & Sienkiewicz, E. (2018). *Beyond standardized tests: A new vision for assessing student learning and school quality*. Boston, MA: Center for Collaborative Education; Darling-Hammond, L. (Ed.). (2014). *Next Generation Assessment: Moving Beyond the Bubble Test to Support 21st Century Learning*. San Francisco, CA: Jossey-Bass; Chung Wei, R., Pecheone, R., & Wilczak, K. (2014). *Performance assessment 2.0: Lessons from large-scale policy and practice*. Palo Alto, CA: Stanford Center for Assessment, Learning and Equity.
2. Darling-Hammond, L. (2017). *Developing and measuring higher order skills: Models for state performance assessment systems*. Palo Alto, CA: Learning Policy Institute and Council of Chief State School Officers.
3. Hart Research Associates. (2015). *Falling short? College learning and career success. Selected findings from online surveys of employers and college students conducted on behalf of the Association of American Colleges & Universities*. Washington, DC: Association of American Colleges & Universities.
4. Darling-Hammond, L., & Adamson, F. (2010). *Beyond basic skills: The role of performance assessment in achieving 21st century standards of learning*. Stanford, CA: Stanford University, Stanford Center for Opportunity Policy in Education.
5. Darling-Hammond, L. (2017). *Developing and measuring higher order skills: Models for state performance assessment systems*. Palo Alto, CA: Learning Policy Institute and Council of Chief State School Officers.
6. New Hampshire Department of Education. (n.d.). Performance Assessment for Competency Education (PACE). <https://www.education.nh.gov/assessment-systems/pace.htm> (accessed 01/11/20).
7. New York Performance Standards Consortium. (2018). *Redefining assessment: Data report on the New York Performance Standards Consortium*. New York, NY: Author.
8. Hernández, L. E., Darling-Hammond, L., Adams, J., & Bradley, K. (with Duncan Grand, D., Roc, M., & Ross, P.). (2019). *Deeper learning networks: Taking student-centered learning and equity to scale*. Palo Alto, CA: Learning Policy Institute; Darling-Hammond, L., Friedlaender, D., & Snyder, J. (2014). *Student-centered schools: Policy supports for closing the opportunity gap*. Stanford, CA: Stanford Center for Opportunity Policy in Education.
9. California Performance Assessment Collaborative. (2018). *Guiding principles for equitable performance assessment systems*. Palo Alto, CA: Learning Policy Institute.
10. California Performance Assessment Collaborative. (n.d.). <https://learningpolicyinstitute.org/project/california-performance-assessment-collaborative> (accessed 01/22/20).
11. This section draws on Darling-Hammond, L., & Adamson, F. (2014). *Beyond the Bubble Test: How Performance Assessments Support 21st Century Learning*. San Francisco, CA: Jossey-Bass.
12. Newmann, F. M., Marks, H. M., & Gamoran, A. (1995). Authentic pedagogy: Standards that boost performance. *American Journal of Education*, 104(4), 280–312; Lee, V. E., Smith, J. B., & Croninger, R. G. (1995). Another look at high school restructuring: More evidence that it improves student achievement and more insight into why. *Issues in Restructuring Schools*, 9, 1–9.
13. Darling-Hammond, L., & Adamson, F. (2014). *Beyond the Bubble Test: How Performance Assessments Support 21st Century Learning*. San Francisco, CA: Jossey-Bass; Guha, R., Wagner, T., Darling-Hammond, L., Taylor, T., & Curtis, D. (2018). *The promise of performance assessments: Innovations in high school learning and college admission*. Palo Alto, CA: Learning Policy Institute.
14. Foote, M. (2007). Keeping accountability systems accountable. *Phi Delta Kappan*, 88(5); Robinson, G. (2015, October 30). NYC schools that skip standardized tests have higher graduation rates. *Hechinger Report*. <https://hechingerreport.org/nyc-schools-that-skip-standardized-tests-have-higher-graduation-rates/> (accessed 01/08/20); Fine, M., & Pryiomka, K. (2020). *Assessing college readiness through authentic student work: How the City University of New York and the New York Performance Standards Consortium are collaborating toward equity*. Palo Alto, CA: Learning Policy Institute.

15. Guha, R., Wagner, T., Darling-Hammond, L., Taylor, T., & Curtis, D. (2018). *The promise of performance assessments: Innovations in high school learning and college admission*. Palo Alto, CA: Learning Policy Institute; Darling-Hammond, L., Friedlaender, D., & Snyder, J. (2014). *Student-centered schools: Policy supports for closing the opportunity gap*. Stanford, CA: Stanford Center for Opportunity Policy in Education.
16. Darling-Hammond, L., & Adamson, F. (2014). *Beyond the Bubble Test: How Performance Assessments Support 21st Century Learning*. San Francisco, CA: Jossey-Bass.
17. For a review, see Darling-Hammond, L., & Rustique-Forrester, E. (2005). "The Consequences of Student Testing for Teaching and Teacher Quality" in Herman, J., & Haertel, E. (Eds.). *The Uses and Misuses of Data in Accountability Testing* (pp. 289–319). Malden, MA: Blackwell.
18. Darling-Hammond, L., & Falk, B. (2013). *Teacher learning through assessment: How student performance assessments support teacher learning*. Washington, DC: Center for American Progress.
19. Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, 32(6), 3–12.
20. Watkins, J., Peterson, A., & Mehta, J. (2018). *Transforming school districts to support deeper learning for all: A hypothesis*. Cambridge, MA: Deeper Learning Dozen. <https://www.deeperlearningdozen.org/about-us>.
21. Morel, R., Coburn, C., Catterson, A., & Higgs, J. (2019). The multiple meanings of scale: Implications for researchers and practitioners. *Educational Researcher*, 48(6), 369–377.
22. Shavelson, R., Linn, R., Baker, E., Ladd, F., Darling-Hammond, L., Shepard, L., Barton, P., Haertel, E., Ravitch, D., & Rothstein, R. (2010). *Problems with the use of student test scores to evaluate teachers*. Washington, DC: Economic Policy Institute; Tienken, C., Colella, A., Angelillo, C., Fox, M., McCahill, K., & Wolfe, A. (2017). Predicting middle level state standardized test results using family and community demographic data. *Research in Middle Level Education*, 40(1), 1–13.
23. California Department of Education. (2019). *2018–19 enrollment for charter and non-charter schools*. (Los Angeles Unified Report 19-64733). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrCharterLevels.aspx?cds=1964733&aggllevel=district&year=2018-19>.
24. California Department of Education. (2019). *2018–19 enrollment by grade*. (Los Angeles Unified Report 19-64733). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=1964733&aggllevel=district&year=2018-19>. This number includes optional schools (continuation schools and community day schools) but not charter schools.
25. California Department of Education. (2019). *2018–19 enrollment by ethnicity and grade*. (Los Angeles Unified Report 19-64733). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrEthGrd.aspx?cds=1964733&aggllevel=district&year=2018-19>. In this report, "students who come from families earning a low income" refers to students classified by the California Department of Education as "socioeconomically disadvantaged." The California Department of Education includes students who are eligible for free or reduced-price meals or those who have parents/guardians who did not receive a high school diploma in this category.
26. Unpublished data from Los Angeles Unified School District, Linked Learning Office (personal communication, 2019). This calculation only applies to Linked Learning pathways at the high school level. It excludes several Los Angeles Unified middle schools that have recently joined the initiative. It also excludes charter schools and optional schools (continuation and community day schools) when counting the total number of high schools in the Los Angeles Unified School District, since the Linked Learning Office does not support schools in these categories.
27. Linked Learning. (n.d.). Linked Learning Data Mart. <http://linkedlearningdatamart.org/facts/list?state=ca> (accessed 01/11/20).
28. Linked Learning. (n.d.) About the Linked Learning approach. <http://www.linkedlearning.org/en/about/> (accessed 01/11/20).
29. Los Angeles Unified School District. (n.d.). LAUSD Linked Learning pathways by industry sector. <https://achieve.lausd.net/Page/8076> (accessed 09/24/18); personal email with Linked Learning Administrator (2018, September 21).

30. Jaquith, A., Martin, D., & Johnston, J. (2014). *Developing a performance assessment system from the ground up: Lessons learned from three Linked Learning pathways*. Stanford, CA: Stanford Center for Opportunity Policy in Education.
31. Personal phone call with Los Angeles Unified School District Linked Learning Administrators (2019, December 20).
32. Unpublished data from Los Angeles Unified School District, Linked Learning Office (personal communication, 2020). This calculation excludes charter schools and optional schools (continuation and community day schools), as the Linked Learning Office does not support schools in these categories.
33. Unpublished data from Los Angeles Unified School District, Linked Learning Office (personal communication, 2019). This calculation excludes charter schools and optional schools (continuation and community day schools), as the Linked Learning Office does not support schools in these categories.
34. Gilstrap, S. (2019). Cypress Park Middle School: Forging a path to Linked Learning success. *Techniques: Connecting Education and Career*, 93(8), 16–19.
35. Oakland Unified School District Board of Education. (2005). *BP 6146.1 High school graduation requirements*. Oakland, CA: Oakland Unified School District.
36. California Department of Education. (2019). *2018–19 enrollment by grade*. (Oakland Unified Report 01-61259). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=0161259&aggllevel=district&year=2018-19>.
37. California Department of Education. (2019). *2017–18 four-year adjusted cohort graduation rate*. (Oakland Unified District Report 01-61259). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/CohRate.aspx?cds=0161259&aggllevel=district&year=2017-18&initrow=&ro=y>. In this report, “students who come from families earning a low income” refers to students classified by the California Department of Education as “socioeconomically disadvantaged.” The California Department of Education includes students who are eligible for free or reduced-price meals or those who have parents/guardians who did not receive a high school diploma in this category.
38. Oakland Unified School District Board of Education. (2005). *BP 6146.1 High school graduation requirements*. Oakland, CA: Oakland Unified School District.
39. Members of the Linked Learning Office and ConnectED: The National Center for College and Career updated the Oakland Unified graduate profile in 2019, using a variety of stakeholder feedback to inform the new graduate profile. The district anticipates that this updated version may inspire greater engagement with the graduate profile as a tool to align instruction throughout the district. While the district does not have any concrete plans to change the district rubrics associated with the graduate capstone, the graduate profile work may lead to shifts in these rubrics in the future.
40. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2018, August 30).
41. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2019, October 31).
42. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2018); Oakland Unified School District. (2014). *Pathway to excellence*. Oakland, CA: Office of the State Administrator.
43. The decrease in the total number of Linked Learning pathways between the 2017–18 and the 2018–19 school years has to do with the restructuring of pathways at one high school within the district. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2019, October 31).
44. California Department of Education. (2019). *2018–19 enrollment by grade*. (Oakland Unified Report 01-61259). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=0161259&aggllevel=district&year=2018-19>.

45. Currently only Linked Learning sites are implementing the graduate capstone, which entails using the district rubrics and participating in professional learning sessions led by central office staff. However, Oakland Unified is moving toward wall-to-wall Linked Learning implementation of the graduate capstone in high schools. This means that district leaders hope that all students will eventually be enrolled in a Linked Learning pathway.
46. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2018).
47. Unpublished data from Oakland Unified School District, Linked Learning Office (personal communication, 2019, October 31).
48. California Department of Education. (2019). *2018–19 enrollment by grade*. (Pasadena Unified Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=1964881&aggllevel=district&year=2018-19>.
49. Students at one of the combined middle and high schools (an alternative school) and the continuation high school were encouraged—but not required—to complete the senior defense. California Department of Education. (2019). *2018–19 enrollment by grade*. (Pasadena Unified Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=1964881&aggllevel=district&year=2018-19>.
50. California Department of Education. (2019). *2018–19 enrollment by grade*. (Pasadena Unified Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=1964881&aggllevel=district&year=2018-19>.
51. California Department of Education. (2019). *Enrollment multi-year summary by ethnicity*. (Pasadena Unified Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrEthYears.aspx?cds=1964881&aggllevel=district&year=2018-19>.
52. California Department of Education. (2019). *Enrollment multi-year summary by ethnicity*. (Pasadena Unified Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/EnrEthYears.aspx?cds=1964881&aggllevel=district&year=2018-19>. In this report, “students who come from families earning a low income” refers to students classified by the California Department of Education as “socioeconomically disadvantaged.” The California Department of Education includes students who are eligible for free or reduced-price meals or those who have parents/guardians who did not receive a high school diploma in this category.
53. The Pasadena Unified graduate profile is organized around the seven attributes of a Pasadena Unified graduate: Critical Thinker, Creative and Innovative Thinker, Communicator, Collaborator, Prepared for College and Career, External and Internal Values—Culturally Competent Citizen, and Healthy Mind and Body. Pasadena Unified School District. (2014). *PUSD graduate profile*. <https://www.pusd.us/cms/lib/CA01901115/Centricity/Domain/68/PUSD%20GradProfile.pdf> (accessed 01/14/20).
54. Unpublished data from Pasadena Unified School District, College and Career Academies Department (personal communication, 2017, January 31).
55. Career Academy Support Network. (2011, October). *Profile of the California Partnership Academies*. Sacramento, CA: California Department of Education. <https://www.cde.ca.gov/ci/gs/hs/cpareport09.asp>.
56. Unpublished data from Pasadena Unified School District, College and Career Academies Department (personal communication, 2018, November 30).
57. Rice, E., & Rutherford-Quach, S. (2012). *Linked Learning in Pasadena: Creating a collaborative culture for sustainable district reform*. Linked Learning Case Study Series. Stanford, CA: Stanford Center for Opportunity Policy in Education.
58. McKenna, B. (2012, May 15). *A tale of two districts: How Linked Learning is helping two school districts improve student learning*. Stanford, CA: Stanford Center for Opportunity Policy in Education. <https://edpolicy.stanford.edu/news/articles/597>; DataQuest reports, 2017–18, from California Department of Education; Rice, E., & Rutherford-Quach, S. (2012). *Linked Learning in Pasadena: Creating a collaborative culture for sustainable district reform*. Linked Learning Case Study Series. Stanford, CA: Stanford Center for Opportunity Policy in Education.
59. Unpublished data from Pasadena Unified School District, College and Career Academies Department (personal communication, 2020, January 23).

60. Pasadena Unified School District Board of Education. (2014). *BP 6146.1 High school graduation requirements*. Pasadena, CA: Pasadena Unified School District.
61. California Department of Education. (2019). *2018–19 four-year adjusted cohort graduation rate*. (Pasadena Unified District Report 19-64881). DataQuest. <https://dq.cde.ca.gov/dataquest/dqcensus/CohRate.aspx?agglevel=district&year=2018-19&cds=1964881>.
62. Pasadena Unified School District. (2014). *PUSD graduate profile*. (Pasadena Unified District Report 19-64881). Data Quest. <https://www.pusd.us/cms/lib/CA01901115/Centricity/Domain/68/PUSD%20GradProfile.pdf> (accessed 01/14/20).
63. Pasadena Unified School District Board of Education. (2014). *BP 6146.1 High school graduation requirements*. Pasadena, CA: Pasadena Unified School District.
64. Pasadena Unified School District Academics Department. (n.d.). *High school graduation requirements for the Class of 2019 and beyond* (p. 1). Pasadena, CA: Pasadena Unified School District.
65. Pasadena Unified School District Academics Department. (n.d.). *High school graduation requirements for the Class of 2019 and beyond*. Pasadena, CA: Pasadena Unified School District.
66. Oakland Unified School District Board of Education. (2005). *BP 6146.1 High school graduation requirements*. Oakland, CA: Oakland Unified School District.
67. The revised graduate profile shifted the desired student outcomes from “culturally disciplined; socially, emotionally, and physically thriving; essential communicators; civically engaged; academically proficient; and post-high school plan in hand” to “community leaders; resilient learners; creative problem solvers; critical thinkers; and collaborative teammates”; both graduate capstones identify all of these competencies as elements of a graduate who is “college, career, and community ready.” The revised profile went to the Oakland Board of Education this year for review. It was not voted on as a separate resolution, but it was included in the district’s 3-year instructional focus document, which did go through board approval; Johnson-Trammell, K. (2019). *Oakland Unified School District instructional focus plan 2019–2022*. Oakland, CA: Oakland Unified School District. <https://drive.google.com/file/d/1qgMsbtmoeqs6Qx4hd-mvtDpnE2cmc0Ls/view>; Choi, Y. W., & Lutzenberger-Philips, J. (2019). *Oakland Unified School District graduate profile (revised)*. Berkeley, CA, and Oakland, CA: Connected: The National Center for College and Career & Oakland Unified School District.
68. Warren, P., & Murphy, P. (2014). *Implementing the Common Core State Standards in California*. San Francisco, CA: Public Policy Institute of California.
69. California Department of Education. (2019, April 30). California High School Exit Exam (CAHSEE). <https://www.cde.ca.gov/ta/tg/hs/>.
70. As of October 2019, California replaced the term “at-risk” with “at-promise” but uses the same criteria, as follows: At-promise students are defined as those who meet at least three of the following six criteria: (1) having a poor attendance record, (2) being significantly behind in credits, (3) demonstrating low motivation for the regular school program, (4) being economically disadvantaged, (5) having low state test scores, and (6) having a low grade point average. Cal. Admin. Code tit. 2, § 54690 (2019). http://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=54690.&lawCode=EDC.
71. Career Academy Support Network. (2011, October). *Profile of the California Partnership Academies*. Sacramento, CA: California Department of Education. <https://www.cde.ca.gov/ci/gs/hs/cpareport09.asp>.
72. California Department of Education. (2019, August 7). California Career Pathways Trust (CCPT). <https://www.cde.ca.gov/ci/ct/pt/>.
73. California Department of Education. (2019, August 7). California Career Pathways Trust (CCPT). <https://www.cde.ca.gov/ci/ct/pt/>.
74. A.B. 790, Ch. 616 (2011). Career technical education: Linked Learning Pilot Program.
75. A total of \$2 million in funding was available in the 2013–14 fiscal year, with a maximum award of \$80,000 per grant recipient. A total of \$375,000 in funding was available in the 2014–15 fiscal year, with a maximum award of \$12,500 per recipient. A total of \$90,000 in funding was available in the 2015–16 fiscal year, with a maximum award of \$45,000 per recipient. California Department of Education. (2015, October 27). Linked Learning Pilot Programs (A.B. 790). <https://www.cde.ca.gov/fg/fo/profile.asp?id=3470>.

76. Frey, S. (2013, January 29). Linked learning comes of age in California with new pilot programs. *EdSource*. <https://edsources.org/2013/linked-learning-comes-of-age-in-california-with-new-pilot-programs/26222>.
77. Linked Learning. (n.d.). Linked Learning Data Mart. <http://linkedlearningdatamart.org/facts/list?state=ca> (accessed 01/11/20).
78. Darling-Hammond, L., Hyler, M. E., Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.
79. Unpublished data from Pasadena Unified School District, College and Career Academies Department (personal communication, 2018, November 30).
80. A-G courses are a sequence of courses required for admission to the University of California or California State University system.
81. Pilot Schools within Los Angeles Unified have autonomy over five key areas: staffing, scheduling, budget, governance, and curriculum and assessment. Los Angeles Unified School District. (n.d.). Overview. Los Angeles, CA: Author. <https://achieve.lausd.net/Page/2841> (accessed 12/20/19).
82. The Elect-to-Work Agreement (EWA) is a document that is established and approved by educators and administrators at each Pilot School site, which outlines the working conditions, terms, and expectations for employment at that site. The EWA can be used to facilitate the hiring of teachers interested in implementing a portfolio and defense because it calls out the associated roles and responsibilities.
83. Site visit (2018, October 12).
84. Newmann, F. M., Marks, H. M., & Gamoran, A. (1995). Authentic pedagogy: Standards that boost performance. *American Journal of Education*, 104(4), 280–312; Lee, V. E., Smith, J. B., & Croninger, R. G. (1995). Another look at high school restructuring: More evidence that it improves student achievement and more insight into why. *Issues in Restructuring Schools*, 9, 1–9; Darling-Hammond, L., & Adamson, F. (2014). *Beyond the Bubble Test: How Performance Assessments Support 21st Century Learning*. San Francisco, CA: Jossey-Bass; Guha, R., Wagner, T., Darling-Hammond, L., Taylor, T., & Curtis, D. (2018). *The promise of performance assessments: Innovations in high school learning and college admission*. Palo Alto, CA: Learning Policy Institute; Foote, M. (2007). Keeping accountability systems accountable. *Phi Delta Kappan*, 88(5); Robinson, G. (2015, October 30). NYC schools that skip standardized tests have higher graduation rates. *Hechinger Report*. <https://hechingerreport.org/nyc-schools-that-skip-standardized-tests-have-higher-graduation-rates/> (accessed 01/08/20).
85. For a review, see Darling-Hammond, L., & Rustique-Forrester, E. (2005). “The Consequences of Student Testing for Teaching and Teacher Quality” in Herman, J., & Haertel, E. (Eds.). *The Uses and Misuses of Data in Accountability Testing* (pp. 289–319). Malden, MA: Blackwell; Darling-Hammond, L., & Falk, B. (2013). *Teacher learning through assessment: How student performance assessments support teacher learning*. Washington, DC: Center for American Progress.
86. According to a framework developed by the Hewlett Foundation, deeper learning competencies are defined as follows: (1) master core academic content, (2) think critically and solve complex problems, (3) work collaboratively, (4) communicate effectively, (5) learn how to learn, and (6) develop academic mindsets. William and Flora Hewlett Foundation. (2013). *Deeper learning defined*. Menlo Park, CA: Author.
87. William and Flora Hewlett Foundation. (2013). *Deeper learning defined*. Menlo Park, CA: Author.
88. Dweck, C. S. (2006). *Mindset: The New Psychology of Success*. New York, NY: Ballantine Books.
89. Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2018). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, 24, 6–36. DOI: 10.1080/10888691.2017.1398650.

90. Newmann, F. M., Marks, H. M., & Gamoran, A. (1995). Authentic pedagogy: Standards that boost performance. *American Journal of Education*, 104(4), 280–312; Lee, V. E., Smith, J. B., & Croninger, R. G. (1995). Another look at high school restructuring: More evidence that it improves student achievement and more insight into why. *Issues in Restructuring Schools*, 9, 1–9; Darling-Hammond, L., & Adamson, F. (2014). *Beyond the Bubble Test: How Performance Assessments Support 21st Century Learning*. San Francisco, CA: Jossey-Bass; Guha, R., Wagner, T., Darling-Hammond, L., Taylor, T., & Curtis, D. (2018). *The promise of performance assessments: Innovations in high school learning and college admission*. Palo Alto, CA: Learning Policy Institute; Foote, M. (2007). Keeping accountability systems accountable. *Phi Delta Kappan*, 88(5); Robinson, G. (2015, October 30). NYC schools that skip standardized tests have higher graduation rates. *Hechinger Report*. <https://hechingerreport.org/nyc-schools-that-skip-standardized-tests-have-higher-graduation-rates/> (accessed 01/08/20); for a review, see Darling-Hammond, L., & Rustique-Forrester, E. (2005). “The Consequences of Student Testing for Teaching and Teacher Quality” in Herman, J., & Haertel, E. (Eds.). *The Uses and Misuses of Data in Accountability Testing* (pp. 289–319). Malden, MA: Blackwell; Darling-Hammond, L., & Falk, B. (2013). *Teacher learning through assessment: How student performance assessments support teacher learning*. Washington, DC: Center for American Progress.
91. Available on the Learning Policy Institute website: <https://learningpolicyinstitute.org/product/cpac-district-initiatives-assess-student-learning>.
92. Yin, R. K. (2013). *Case Study Research: Design and Methods* (5th ed.). Thousand Oaks, CA: Sage Publications.
93. Newsom, G. (2020, March 17). *Executive Order N-30-20*. Sacramento, CA: Office of the Governor of the State of California.
94. Johnson, S. (2020, April 16). California moves to close digital divide as schools shift online. *EdSource*. <https://edsources.org/2020/california-moves-to-close-digital-divide-as-schools-shift-online/629281>.
95. Los Angeles Unified School District. (n.d.). *Fingertip facts 2019–2020*. Los Angeles, CA: Author. <https://achieve.lausd.net/site/handlers/filedownload.ashx?moduleinstanceid=52741&dataid=89340&FileName=Fingertip%20Facts%202019-2020.pdf> (accessed 07/06/20).
96. Oakland Unified School District Board of Education. (2020, May 23). *20-0802 Amendment—Board Policy—BP 6146.1—High school graduation requirements under emergency conditions for the 2019–2020 school year*. Oakland, CA: Author. <https://ousd.legistar.com/LegislationDetail.aspx?ID=4456090&GUID=7D63FACE-661F-43FA-9CA2-83474BBB2114> (accessed 07/06/20).
97. Personal email with Pasadena Unified School District College and Career Pathways Coordinator (2020, April 16).
98. Personal email with Pasadena Unified School District College and Career Pathways Coordinator (2020, April 16).
99. Blanco, E. (2020, April 26). Letter from the Office of the Chief Academic Officer. Pasadena, CA: Pasadena Unified School District.

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