

### PUBLIC POLICY INSTITUTE OF CALIFORNIA

### **APRIL 2021**

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with research support from Emmanuel Prunty

Supported with funding from the Sobrato Family Foundation

# Distance Learning Strategies in California Schools



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Technical appendices to this report are available on the PPIC website. A year of distance learning under COVID-19 has fueled growing concerns about the academic progress and social and emotional health of children. In particular, worries increased around how the pandemic has affected high-need and underserved students, including English Learners and children with disabilities, children in foster care and from low-income families. Distance learning has further revealed how unevenly educational resources are distributed—from access to internet and devices, to teacher instruction and parental involvement a situation that may expand California's longstanding racial and socioeconomic divides. We are seeing significant learning loss in both English language arts and math, with earlier grades most affected—and with Black students, low-income students, and English Learners falling behind more.

In this report, we share the results of our survey of California school districts and their approaches to student learning during the pandemic—whether inperson, hybrid, or virtual. We supplement these survey data with Learning Continuity and Attendance Plans (LCPs) from respondent districts and with a US Census survey of California households during the pandemic. In particular, our analyses explore how districts are serving high-need and underserved populations. We find that:

- The digital divide persists. A third of low-income students still do not have reliable internet at home. The vast majority of districts reported technology as a priority and spent more on devices and home internet. As a result, the share of adequate device access increased from 67 to 82 percent from spring to fall 2020.
- In-person instruction is not equitably distributed. High-poverty districts and those with high shares of Black and Latino students were less likely to be physically open in the first semester of 2020–21. Districts with lower test scores before the pandemic were less likely to offer in-person instruction.
- Most districts reported improvements in distance learning since spring 2020. In contrast to spring, 76 percent of districts require at least half of remote instruction to be live. Most provide 3 to 6 hours of instruction per day, an improvement from spring.
- Extended learning, tutoring, and social-emotional learning are among common programs to address learning loss. Most (68%) districts used assessments to identify learning gaps, develop intervention programs, and inform teacher instruction. Districts as also offered evening, weekend, and summer classes.
- Learning loss strategies vary by type of district. Seventy-three percent of high-Black/Latino districts provided supplemental curriculum and instructional materials; 61 percent of high-poverty districts provided programs to address mental health and improve social emotional learning; and 50 percent of high-Black/Latino districts provided tutoring programs.

- Most districts now provide extra resources to support English Learners and students with disabilities. Strategies to support English Learners include designated English language development classes, engaging parents, and ensuring access to curriculum and supplemental learning programs. Support for students with disabilities centers on engaging families to review individual education plans (IEPs), update goals, and provide accommodations and individualized services.
- Federal support is critical to finance increased expenditures due to COVID-19. The vast majority of districts report spending more on technology and school safety, and other major expenditures. Much of this excess spending was made possible through direct federal support, including the \$4.5 billion CARES Act.

The full impact of the pandemic on student learning will take years to repair; schools need to support students through the pandemic and beyond to address the on-going impact of COVID-19 disruptions. As policymakers develop strategies to address learning loss in the short and long term they should focus on sustained state and federal support, investments in broadband, prioritizing in-person instruction for high-need students, and expanding funding and services around mental health.

# Introduction

The pandemic continues to disrupt K–12 public education in California. Early evidence shows that students have experienced significant learning loss in both English Language Arts and mathematics, particularly in earlier grades. By learning loss, we mean the difference between academic progress in a typical year and progress during the pandemic. Data show that Black, Latino, and low-income students, English Learners, and students without internet access at home are falling further behind (Pier et al. 2021; Kuhfeld et al. 2020; Ohio Department of Education 2021). Furthermore, concerns are mounting that a mental health crisis for children looms in the wake of school closures and the pandemic (Rideout et al. 2021; Green 2021; Morning Consult 2020).

While schools have started to bring some students back for in-person instruction, much remains to be done to make up for the learning students have lost, particularly among "high-need" students, a category that includes English Learners, low-income students, and students in foster care or experiencing homelessness.<sup>1</sup> The difficulties with remote and hybrid instruction are well documented; these difficulties include technology access, instructional quality, student engagement along with mental health and social-emotional learning concerns. Meanwhile, longstanding racial and socioeconomic inequities are widening because of the gaps around access to instruction and around the technology that allows students to participate effectively in distance learning (Pier et al. 2021; Kuhfeld et al. 2021).

To understand these difficulties—and how districts are attempting to overcome them—we surveyed school districts throughout California, starting in mid-November 2020 and continuing through mid-January 2021. We asked districts to tell us about their distance learning experiences in spring 2020, how they managed instruction during the first part of the 2020–21 school year, how they addressed potential learning losses, and about their financial constraints and priorities in dealing with the multifaceted challenges brought on by COVID-19. We focused additional questions on how districts addressed learning loss among English Learners and students with disabilities.<sup>2</sup>

Out of 1005 districts, 205 districts responded to our survey—these responding districts serve half of California's K-12 student population. Compared to the profile of nonrespondent districts, respondent districts are more likely to be large, unified districts in urban areas. They enroll a larger share of Black and Latino students. There is no difference in student need such as free/reduced-price lunch, English Learners, and share of high-need students (Technical Appendix Table A1).<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> "High-need" refers to low-income, English Learner, foster youth, and students experiencing homelessness, as defined under the state's funding formula for K–12 schools. The term is also commonly used in tracking California's educational outcomes.

<sup>&</sup>lt;sup>2</sup> The survey instruments are included in Technical Appendix C.

<sup>&</sup>lt;sup>3</sup> Because there are some differences between responding and nonresponding districts, we considered weighting responding districts to make them more representative of districts statewide. However, weighting on observable characteristics cannot fully eliminate the possibility of respondent selectivity, so we ultimately decided against using weights in the main report. See Technical Appendix A for a discussion.

We also analyzed district Learning Continuity Plans (LCPs), which detail their local programs to support student learning.<sup>4,5</sup> Throughout the analysis, we highlight the results for the following school district types, which have been the focus of recent efforts to close opportunity gaps, and report findings if the differences are statistically significant:<sup>6</sup>

- *High-poverty districts*: districts in which more than 75 percent of students are eligible for free/reduced-price lunch<sup>7</sup>
- *High-Black/Latino districts*: districts in which more than 75 percent of students are Black or Latino<sup>8</sup>
- *High-English Learner (EL) districts*: districts in which more than 25 percent of students are ELs, which puts them at the 75th percentile or higher for the district share of EL students
- Rural districts: districts classified as rural based on the National Center for Education Statistics classification

In this report, we first describe the instructional models put in place by different districts in the fall of 2020, and we detail the ways in which the districts may have improved instruction over the spring distance learning. We then outline the subjects and coursework educators worked on with students in fall 2020, and how districts measured student progress. Finally, we describe the strategies districts used to address learning loss and the supplemental services provided for ELs and students with disabilities. We conclude with policy recommendations to address learning loss in the short and long term.

# Most Districts Provided Distance Learning in Both Spring and Fall 2020

Nearly all California schools closed in spring 2020 and turned to distance learning for instruction; by fall 2020, districts began implementing a range of instructional models including in-person, hybrid, and remote.<sup>9</sup> The most common model among districts was remote instruction for all students, at 47 percent (Figure 1). However, remote learning occurred at greater percentages in districts with high shares of Black or Latino students, where 66 percent of districts were remote, and in those with higher shares of English Learner (EL) students (52%) and low-income students (60%). While only 12 percent of districts were open in-person for all students in fall 2020, another 15 percent were hybrid—with all students coming on at least some days—and 27 percent were in-person for only a subset of their students.

<sup>&</sup>lt;sup>4</sup> Senate Bill 98 requires districts to adopt a Learning Continuity Plan (LCP) by September 30, 2020 and post it on the district's website. The LCP provides information for how student learning continuity will be addressed in the 2020–21 school year and includes descriptions of the following: addressing gaps in learning; conducting meaningful stakeholder engagement; addressing the needs of unduplicated students, students with unique needs, and students experiencing homelessness; providing access to necessary devices and connectivity for distance learning; providing resources and supports to address student and staff mental health and social-emotional well-being; and continuing to provide school meals for students (California Department of Education, 2021). In our report, we collected LCPs for districts that responded to our survey to supplement the survey topics. Specifically, we looked at the following areas: (1) addressing gaps in learning; (2) addressing the needs of students with unique needs and students experiencing homelessness (English Learners, students with disabilities, and foster youth); (3) providing access to devices and connectivity; and (4) providing resources and supports to support mental health and social-emotional learning.

<sup>&</sup>lt;sup>5</sup> We built a simple web scraper to search school district and county office of education websites. Of the 205 districts that responded to our survey, 166 (78%) posted their Learning Continuity and Attendance Plans (LCPs) online. We downloaded those plans and processed those PDFs using natural language processing tools to perform sentence classification, text summarization, and text classification. We then merged the text data with publicly available datasets on district characteristics to explore the variation by district types.

<sup>&</sup>lt;sup>6</sup> Statewide, 19 percent of students are English Learners. There is a considerable overlap across districts; for instance, most of the high-poverty districts are also high-Black/Latino districts and high-EL districts (Technical Appendix Table A3)

<sup>&</sup>lt;sup>7</sup> National Center for Education Statistics (NCES) definition of High Poverty.

<sup>&</sup>lt;sup>8</sup> NCES uses 75 percent as the threshold for high proportion minority.

<sup>&</sup>lt;sup>9</sup> Because the vast majority (88%) of respondents completed the survey before January 1, 2020, we referred to the time of our survey as fall 2020.

In fall 2020, just under half of all districts were remote-only



SOURCE: PPIC survey of local education agencies (LEAs) conducted between November 2020 and January 2021. Authors' calculations using district survey responses.

NOTES: High Black/Latino is 75 percent or greater, High EL is 25 percent EL or greater, High Poverty is 75 percent or greater, and Rural is based on the NCES definition. N=192 for districts overall, N=67 for High Black/Latino, N=50 for High EL, N=45 for High Poverty, and N=32 for Rural. Technical Appendix Figure B1 shows the same figure, but weighted by the probability of responding to our survey. Because we are unable to control for possible selection bias on unobservable district characteristics, we present unweighted results throughout the report, unless otherwise noted. Open for all: LEA is open for in-person instruction for all students every school day; Open for some: LEA is open for in-person instruction through a combination of in-person and distance learning; Remote for all: LEA is physically closed for in-person instruction for all students.

More rural districts are at least partially open for in-person instruction, with 87 percent reporting that they are open for at least some students. About 12 percent of districts are open for all students for in-person instruction every school day, but shares are lower in districts that disproportionately serve Black and Latino students and low-income students.

While fewer than half of districts overall were remote, well over half of all California students attended school remotely in fall. This is because most students are enrolled in urban/suburban California districts, and the majority of these districts were in remote mode in fall 2020 (Figure 2). Altogether, 60 percent of students were attending school remotely, with somewhat higher percentages of Black and Latino students and low-income students in remote-only mode. After we consider the size of our responding rural districts, they seem more similar to districts overall in the share that have at least some in-person learning.<sup>10</sup>

<sup>&</sup>lt;sup>10</sup> Many of the rural districts that were open fully, partially, or hybrid serve fewer students than the rural districts that were remote-only, which leads to the difference in the share open when considering rural *districts* (Figure 1) vs rural *students* (Figure 2).

More than half of all students were remote-only for fall 2020



SOURCE: PPIC survey of LEAs conducted between November 2020 and January 2021. Authors' calculations using district survey responses. NOTES: Weighted by students, N=192. Open for all: LEA is open for in-person instruction for all students every school day; Open for some: LEA is open for in-person instruction for some students; Hybrid: all students receive instruction through a combination of in-person and distance learning; Remote for all: LEA is physically closed for in-person instruction for all students.

Among the 47 percent of districts that were not open for in-person instruction at the time of the survey, very few (4%) reported that they will not reopen in 2021. Approximately 44 percent plan to reopen.<sup>11</sup> Most districts indicated that they plan to reopen "as soon as public health officials allow" (54%), followed by January (29%). However, the winter surge in COVID cases has likely put many of these plans on hold. For example, San Bernardino City Unified and Moreno Valley Unified extended distance learning for all students for the remainder of the 2020–21 school year.

We asked the 53 percent of districts that were open at least in part (to some students, in hybrid mode, or to all students), to estimate the share of students who were taught in person. At about a third of these open districts, less than a quarter of students were taught in person, while at another third of these districts over three quarters of students were (Figure 3).

<sup>&</sup>lt;sup>11</sup> The rest of the respondents have not yet made a decision at the time of the survey.

At districts that were at least partially open, more than half of students were taught in person



SOURCE: Authors' calculations using district survey responses. NOTE: N=96.

Among the 27 percent of districts allowing just some of their students back for in-person instruction, we asked which students they prioritized. Districts placed a clear emphasis on younger grades, especially first and second grade: 96 percent of these districts brought back younger students for in-person schooling. Districts also prioritized student need when they allowed some students to return, bringing back students with disabilities (94%), ELs (77%), homeless/foster students (63%), students with learning loss (49%), students without internet or devices (53%), children of essential workers (33%), and new arrival/new immigrant students (29%).

The full impact of remote learning on student learning and success will not be known for some time, but at some large districts learning losses appear to be considerable in English Language Arts (ELA) and math, especially among low-income and EL students (Pier et al. 2021).

Notably, districts that did not offer any in-person instruction in fall 2020 were lower performing in 2019–20 than districts that were partially or fully in-person (Figure 4). In districts closed for in-person instruction, 44 percent of students met or exceeded state standards in ELA on the 2019 SBAC exams; 32 percent did so in math. The share of students who met standards was roughly 10 percentage points higher (statistically significant) in districts that were open (fully or partially) or hybrid in fall 2020.<sup>12</sup> Any additional learning losses from the lack of even partial in-person instruction will compound these gaps and add new difficulties to future efforts to improve student achievement and increase the share who meet grade level standards.

<sup>&</sup>lt;sup>12</sup> Differences are slightly larger (roughly 13–14 percentage points) between hybrid/open districts and remote-only districts when weighting districts by student enrollment. See Technical Appendix Figure B8.

Student proficiency scores were lower at districts closed for in-person instruction in 2020–21



SOURCE: California Department of Education, 2019 SBAC exam results; authors' calculations.

NOTES: Figure reports the average share of students meeting or exceeding grade level standards across districts. Scores from grades 3–8 and 11 are included. A small number of districts with missing or censored SBAC results are excluded. Remote only: LEA is physically closed for in-person instruction for all students; open: LEA is open for in-person instruction for some or all students; hybrid: all students receive instruction through a combination of in-person and distance learning; open for all: LEA is open for in-person instruction for all students every school day. Open includes open for some and open for all. Differences between remote only and hybrid or open are statistically significant in both ELA and math. See Technical Appendix Figure B8 for the student-weighted version.

# **Districts Shifted Priorities in Response to Distance Learning**

Districts were not prepared for distance learning when schools first closed in spring 2020. Since then, districts have invested significant resources to improve distance learning, including efforts to expand student access to devices and internet and to increase the mandated minimum instructional minutes.

### Most Districts Improved Distance Learning in Fall 2020

Over 80 percent of districts said that they handled distance learning at least adequately in spring 2020, with 39 percent saying they handled spring distance learning well or very well and 45 percent saying their performance was adequate. Almost no districts said things were getting worse in fall 2020 (not shown)—most districts reported improvement over spring 2020 in the areas we probed (Figure 5).

Provision of internet and/or devices 76 Instruction 75 Contact with students and families 70 Professional development 63 Student attendance 62 Support for students with disabilities 57 Grading student work 51 Provision of meals to students 48 Student learning outcomes 46 Support for English Learners 43 0 20 40 60 80 100 % of districts

Districts improved instruction, but changes to learning outcomes were less dramatic

SOURCE: Authors' calculations using district survey responses. NOTE: N=205.

Overall, three-quarters of districts improved internet and device access. Our survey did not find meaningful differences across district types, but we know from earlier research that students who are Black/Latino, low-income, English Learners, or who live in rural areas are less likely to have access (Gao, Lafortune, and Hill 2020; Gao and Hill 2020). However, less than half of districts improved efforts at providing meals (48%), improved learning outcomes (46%), or support for English Learners (43%). These low levels of improvement underscore the continued need to review and adjust student learning and support—both under distance learning and when all students return for in-person instruction, and in particular for English Learners.

Districts may have achieved general improvements because of their shifts in priorities. Since spring 2020, majorities of districts report elevating student engagement, addressing achievement gaps, ensuring student health and safety, and supporting student emotional health and well-being (Figure 6). Assessing student achievement was less likely to be a higher priority for High Black/Latino districts, however.

Importantly, students' social and emotional well-being was also a key budget priority in nearly 90 percent of districts (Technical Appendix Figure B6). Most districts also prioritized technology access, learning loss mitigation, students with additional needs (including English Learners, students with disabilities, and foster youth), maintaining programming and supports, and providing adequate resources.<sup>13</sup>

<sup>&</sup>lt;sup>13</sup> District spending priorities were similar across districts of different types, although rural schools were less likely to prioritize teacher development and retention, and students with additional needs (Technical Appendix Figure B6).

Districts have prioritized social and emotional well-being and student engagement since spring 2020



SOURCE: Authors' calculations using district survey responses. NOTE: N=205.

### **Districts Financed COVID-Related Costs in Many Ways**

School districts entered the 2020–21 school year with considerable financial uncertainty. For the enacted state budget, administrators anticipated revenue losses of billions of dollars compared to the prior year. K–12 public schools were spared cuts, however, as the state relied on "deferrals"—that is, delaying payments to school districts until the following fiscal year— districts were required to rely on their reserves or take on short-term loans to meet obligations (Lafortune, Mehlotra, and Paluch 2020). Fortunately, state revenues in 2020 far exceeded the budgeted expectations, and school districts will enter the 2021–22 fiscal year with record state funding for K–12 education (Governor's Office 2021).

Despite this fiscal uncertainty and the expectation of deferred payments, 2020–21 budgets were lower than the prior year at only one-third (35%) of districts (Technical Appendix Figure B5). Nearly half of districts (45%) had roughly the same budget, though 20 percent stated that their 2020–21 budget was greater than the prior year. There were few differences across districts with different demographics; districts with a high share of EL students were the most likely to report having a smaller budget (39%), while high-poverty districts were the least likely (21%).

Districts incurred significant new costs in 2020–21 with the switch to distance learning and the preparations for a safe reopening and operation. The vast majority of districts spent more on devices and home connectivity (94%) and school safety (95%) in 2020–21 (Figure 7). Roughly three-quarters of districts also spent more on distance learning toolkits (such as digital curriculum) as well professional development for teachers and meal services. There were no notable differences across districts with different demographics in either the propensity or composition of excess spending.

Nearly all districts spent more on safety, devices, and connectivity in 2020-21



SOURCE: Authors' calculations using district survey responses.

NOTES: N=162. Responses marked "I don't know" are excluded. Survey question text: "In response to the COVID-19 pandemic, what did your district spend money on: (in excess of normal costs)?" The options are included in Technical Appendix C.

Direct federal support for schools made much of this extra spending possible. The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided \$9.5 billion to the state in 2020, \$4.5 billion of which was allocated to K–12 schools and community colleges. Additional federal stimulus bills, passed at the end of December 2020 and in March 2021, provided \$22 billion more for California K–12 districts.

Indeed, among those districts that had to increase spending in response to the COVID-19 pandemic, the majority financed these investments using federal and state COVID mitigation funds (Figure 8). Many respondent districts also found savings in their budgets without reducing services (35%) or relied on cost savings from reducing or eliminating in-person school operations (40%). Roughly one-third (36%) used these reserves to fund additional COVID-related expenditures, as their reserves were in a strong position entering the pandemic (Lafortune, Mehlotra, and Paluch 2020). Finally, relatively few districts (15%) drew on new revenue sources, and some also relied on staffing reductions, program cuts, or deferred maintenance.

Most districts relied on COVID-related funds to finance rising costs



SOURCE: Authors' calculations using district survey responses.

NOTES: N=158 districts. Survey question text: "How were these expenditures financed? (select all that apply)." Answers reported only for respondents who were knowledgeable of district finances in response to the COVID-19 pandemic.

### More Students Had Access to Devices but not Internet in Fall 2020

Since the onset of the pandemic, local districts have collaborated with federal and state governments to invest significant resources in expanding student access to internet and to computing devices such as Chromebooks and iPads. The state established partnerships with internet service providers (ISPs) and technology companies to deliver more than 73,000 devices and 100,000 Wi-Fi hotspots, and those efforts greatly enhanced student access to devices. Based on Census data, 82 percent of families always had devices available for educational purposes in fall 2020, up from 67 percent in the spring. Nearly all major student subgroups had more access to devices in the fall (Figure 9).

### FIGURE 9 Nearly all students gained better access to devices in fall compared to spring



#### SOURCE: Census Household Pulse Survey, 2020.

NOTES: Sample includes 130,433 Californians surveyed between April 23 and December 7, 2020. Children in those households attend public or private schools in California. Households with missing/nonreported responses are excluded from analyses. Household income is based on 2019 income: low income <\$50,000; high income >\$100,000. Race/ethnicity and educational level are based on the household member who completed the Pulse survey. Stars indicate level of statistical difference from spring (\* p < 0.10 \*\* p < 0.05 \*\*\* p < 0.01).

However, districts made less progress in home internet access. Despite the improvement from spring, a third of low-income students still do not always have reliable internet at home (Figure 10). This could be for several reasons. First, officials dedicated fewer resources to connectivity. According to the Learning Continuity Plans (LCPs) of respondent districts, 95 percent purchased devices while 89 percent provided hotspots to students who had no internet access at home. Second, many ISPs offered free or discounted programs to eligible families in spring 2020, but those programs have expired or scaled back even as the pandemic persists.

Reliable internet was still a concern for students with less-educated parents, low-income students, and Black and Latino students



#### SOURCE: Census Household Pulse Survey, 2020.

NOTES: Sample includes 130,433 Californians surveyed between April 23 and December 7, 2020. Children in those households attend public or private schools in California. Households with missing/nonreported responses are excluded from analyses. Household income is based on 2019 income: low income <\$50,000; high income >\$100,000. Race/ethnicity and education are based on the household member who completed the Pulse survey. Stars indicate level of statistical difference from spring (\* p < 0.10 \*\* p < 0.05 \*\*\* p < 0.01).

# **Most Districts Improved Instruction in Fall 2020**

Responding to concerns that students were not receiving enough instruction during spring 2020 closures, California legislators wrote new requirements into the enacted 2020–21 California budget act. The act specifies that districts must now provide daily live interaction, and it sets minimum instructional minutes by grade level: 180 minutes for kindergarten, 230 minutes for grades 1 through 3, and 240 minutes for grades 4 through 12. About 86 percent of districts have reached an agreement with their unions over the number of instructional minutes teachers must provide.

Live instructional minutes are just one way to meet the minimum instruction requirements. We also asked districts to total all their instructional activities, which included live instruction, watching pre-recorded lessons, small group discussion, and completing self-directed assignments. On an average day in fall 2020, majorities of students in grades 1 through 12 had at least three hours of instructional activity (Figure 11). At 15 percent of districts, middle schoolers had at least six hours of daily instructional activity, while at 22 percent of districts, high school students had at least six hours. This is an improvement from spring, when students in grades K–5 would spend *less than* three hours on instructional activities (Garet et al. 2020). With the 2020–21 enacted budget, students in grades 4 through 12 must have six hours of instructional time daily.

Most districts provided 3 to 6 hours of instructional activities daily to students across grade levels



SOURCE: Authors' calculations using district survey responses. NOTE: N=113.

How districts provide these instructional minutes varied. Among districts using hybrid or remote instruction, 34 percent required at least three-quarters of instruction time to be live (Figure 12). At 43 percent of these districts, approximately half of instruction is live while at less than 25 percent of these districts, about a quarter of instruction is live. There is no significant difference by district type.

#### **FIGURE 12**

For most districts operating at least partially remotely, most of their instruction was live



SOURCE: Authors' calculations using district survey responses. NOTE: N=115.

## **Students Received Instruction Aligned to Standards**

Countless news articles from spring reported that students were often not logging into class or did not fully participate when logged in, that students were not required to turn in work, and that many districts focused on reviewing material rather than teaching new material (Besecker, Thomas, and Daley 2020; Hamilton et al. 2020; Tadavon 2020). In spring, many districts announced that students would not receive worse grades than they had earned before schools closed or that students would be graded on a pass/fail basis, if at all. The minimum state graduation requirements were waived, and many districts with more rigorous requirements waived those as well (Gao 2021).

In contrast to the spring, in fall 2020 most districts were focusing their remote content on new material (59%), while most of the remainder were teaching new material and reviewing material (40%). One percent were primarily reviewing content already taught by teachers (Technical Appendix Figure B7). This represents a marked improvement from the spring, when nearly half of teachers focused mostly or exclusively on reviewing content (Hamilton et al. 2020). In terms of what they were teaching, two-thirds of districts made efforts to align their distance learning instruction with English Language Arts (ELA) and math standards.

Nearly two-thirds (63%) aligned distance learning with English Language Development standards, and a somewhat higher proportion did so in high proportion Black/Latino districts (73%).

Districts may have decreased English Language Development (ELD) and science courses offered this past fall somewhat more than they decreased ELA and math offerings. Ten percent of districts offered fewer science courses and 8 percent had fewer ELD offerings (Figure 13).



In fall 2020, more districts offered fewer science and ELD courses than ELA and math.

SOURCE: Authors' calculations using district survey responses. NOTE: N=119.

**FIGURE 13** 

Spring 2020 distance learning left many students disengaged from their schooling, as up to 20 percent of students had not had any contact with teachers (Besecker, Thomas, and Daley 2020). Our survey tried to assess how districts were keeping connected to students last fall and how they were monitoring their learning. Districts monitored student completed work (94%), student interaction with teachers (86%), student log-ins (84%), and student sign-ins (70%). Only 1 percent of districts did not monitor participation.<sup>14</sup> Monitoring completion of work was similar across all districts, but high Black/Latino districts were more likely to report monitoring student log-ins (94% vs. 84% in districts overall).

In spring 2020, many districts across the state moved to a pass/fail system (except for AP classes, where most teachers still assigned letter grades). There was no state-mandated requirement for grading systems in fall 2020, but 89 percent of students participating in distance learning received letter grades; only one percent were still being graded in pass/fail mode. Some students received feedback on their work, but got neither a grade nor a mark of pass/fail (6%). Only one percent of districts were monitoring student work for completion, but did not provide feedback.

# Most Districts Prioritized Efforts to Address Learning Loss

For 80 percent of districts, strategies to mitigate learning loss were considered a priority when they developed their 2020–21 budgets. Based on their LCPs, districts have implemented a wide variety of programs—from assessing student learning to less-popular ones such as financial incentives to teachers and students—to address learning loss (see textbox).<sup>15</sup>

<sup>&</sup>lt;sup>14</sup> Districts with this response are closed for in-person instruction.

<sup>&</sup>lt;sup>15</sup> One district provided extra pay, and one district provided incentives to encourage high school graduation.

### General programs to address learning loss

**Assessing student learning.** Most districts (89%) used assessments to measure student learning in fall 2020. Districts used a variety of assessments (Technical Appendix Figure B2), with teacher and district developed assessments being the most popular (76%). Fewer than half of districts (48%) used an assessment to place ninth graders into math courses. Many districts were offering this assessment remotely.

**Using small group instruction.** Nearly two-thirds of districts provided differentiated instruction in small groups to support student learning.

**Providing access to core and supplemental curriculum.** The education technology market has boomed, with a record number of districts purchasing supplemental digital resources and programs nationally. In California, 60 percent of districts gave students access to core and supplemental curriculum, instructional materials, and online programs. This strategy was significantly more popular among high-Black/Latino districts (73%).

**Monitoring student progress.** Fifty-seven percent of districts had programs to check in with students frequently and used assessment data to monitor student progress over time.

**Providing individualized support.** Slightly more than half of districts provided individualized support such as one-on-one office hours and frequent check-ins, but such support was less popular among high-poverty, high-Black/Latino, and high-EL districts.

**Offering extended learning and instruction for students.** Close to half of California districts offered extended learning programs such as evening classes, weekend classes, and summer bridge programs to students.

**Providing individualized instruction.** Similarly, close to half of districts provided individualized instruction, through one-on-one office hours with teachers, mentoring, and tutoring programs to address the needs of individual students.

Addressing mental health and social-emotional learning. Forty-three percent of districts integrated social-emotional learning (SEL) by providing SEL lessons, curriculum, and supplemental programs. Notably, 61 percent of high-poverty districts provided SEL instructions/lessons.

**Providing tutoring programs.** Forty-two percent of districts provided tutoring programs with teachers, peers, college students, and tutoring organizations to help struggling students. Tutoring was more popular among high-Black/Latino districts (50%).

Learning loss—or learning delay—during the pandemic was most acute among English Learners and low-income students. Both groups are less likely to have reliable access to technology at home, are more likely to experience food insecurity and housing insecurity, may feel disconnected from online instruction, and may receive less support from parents (Pier et al. 2021; Ohio Department of Education 2021). English Learners, students with disabilities, and foster students have additional needs such as English language support, occupational therapy, and housing needs, and hence require additional services and programs—some of which are hard to deliver during distance learning.

We designed the survey instrument to learn what districts might be doing to assess learning loss, catch students up, and close any gaps, especially for English Learners and students with disabilities. Recall, districts reported

that they had improved support for EL (46%) and students with special needs (60%) (see Figure 5, earlier). Below, we probe some mechanisms that may help identify learning loss and could then help close any observed gaps by using survey data and Learning Continuity Plans.

# **Districts Provided Additional Resources to English Learners**

A national survey from spring 2020 found that teachers felt learning materials met the needs of EL students (Tuma, Doan, and Lawrence 2021). In California school districts, 19 percent of students are ELs. On our survey, close to 90 percent of districts discussed the unique needs of English Learners in their LCP plans, and 60 percent provided additional resources to ELs during distance learning.

Eighty-four percent of districts provided small group instruction as an extra service for ELs during distance learning, and 75 percent offered extra time with an English Language Development teacher or aide (Figure 14). Close to 70 percent of districts offered designated and integrated instruction for ELs. A few districts (8%) have further set up minimum minutes (e.g., 30 minutes daily, four times a week) and/or designated time for EL instruction (15%).

Districts made efforts to communicate with families in their home language (80%) and provide extra materials for families in their home language as well (57%). Most districts had designated staff, such as an EL specialist, reach out to families to discuss technology needs and access to curriculum as well as to connect families with services. Most also offered bilingual staff at school sites for two-way communication with parents of English Learners. Some districts provided family engagement opportunities to engage and assist parents of English Learners with skills and resources to support their children with academic and linguistic progress.

Close to 60 percent of districts provided additional instructional materials, including digital resources (e.g., Rosetta Stone, BrainPop), packets of instructional materials for recent immigrants and/or students without internet access, and special curriculum for long-term English Learners.

Districts turned to formative and diagnostic assessments of English proficiency less often, although these assessments appeared to be more important in high-percentage EL districts than in districts overall (56% vs. 43%). As for the specific assessments districts used, high-EL districts appeared to choose similar assessments to districts overall.

Schools emphasized instructional time for EL students during distance learning, especially in high-EL districts



SOURCE: Authors' calculations using district survey responses.

NOTES: Among respondents who are at least "slightly familiar" with their district's policies and programs for English Learners. N=122 overall and N=32 high-EL districts. The majority of respondents (N=109), indicated that they were at least somewhat or very familiar with EL programs and policies. Stars indicate statistical difference from overall district share (\* p<0.10 \*\* p<0.05 \*\*\* p<0.01).

We asked districts whether they had taken advantage of the extended testing window for the 2019–2020 English Language Proficiency Assessments for California (ELPAC). In a typical year, the ELPAC is one of the primary criteria used to determine students' English proficiency level, if students are prepared to exit the English Learner designations; it can also be used for course placement (Hill, Lee, and Hayes 2021).<sup>16</sup> Most (86%) of districts used the assessment in fall 2020 (Figure 15). Before COVID-19, the ELPAC assessments were available only in person. This fall, 45 percent of districts offered the assessment remotely, a first in California.

<sup>&</sup>lt;sup>16</sup> Spring closures meant that many districts were not able to complete their testing, so the state permitted use of last year's assessment through October 2020.

Most districts used the expanded ELPAC testing window to assess EL students



SOURCE: Authors' calculations using district survey responses. NOTES: N=126; English Language Proficiency Assessments for California (ELPAC).

In those districts administering the 2019–2020 Summative ELPAC, 67 percent gave it to all EL students, 27 percent administered it to those ELs who had met the other reclassification criteria for 2019–2020, and 6 percent gave it to "other."

### **Districts Adapted to Support Students with Disabilities**

Distance learning brings another layer of challenges for students with disabilities, many of whom require accommodation—some services required by individualized education programs (IEPs) cannot be easily provided online or over the phone. We asked respondents who were familiar with their districts' special education policies if these students received additional services from their district during distance learning, and in 68 percent of districts they did. Services included communicating more with the family (95%) and providing assistive technology (79%) (Figure 16).

The IEP is a roadmap for each student with a disability, and during school closure, it is critical that the IEP team meets and works with students and their family to determine what is working for each student in distance learning. LCPs for nearly all districts emphasized engaging with students' families to review their IEP plan, address progress on goals, and update supports, accommodations, and services based on individual student learning needs. Meanwhile, more than 75 percent of districts provided assistive technology to ensure that students had meaningful access to distance learning curriculum and instruction.

Along with providing services required by IEPs such as occupational therapy (72%) and physical therapy (41%), 64 percent of districts added more in-person IEP meetings and services, with no differences across district types. These in-person services may have been harder to arrange in those types of districts where fewer students were attending school in person (Figure 1, Figure 2, and Figure 3, earlier).

Extra communication with families was the most common additional service provided to students with special needs in fall 2020



SOURCE: Authors' calculations using district survey responses.

NOTES: Among respondents who are at least "somewhat familiar" with their district's policies and programs for students with disabilities. N=129.

### Districts Offered Resources to Students in Foster Care

About 60,000 children under age 18 in California are in foster care. Foster care is temporary for most children, but 12 percent of children do not leave foster care before they become adults (Danielson and Lee 2010). Children in foster care are often subject to changes in placement, which may then mean the children must change schools a shift that can have disruptive effects on student outcomes. As a result, most (77%) districts devoted additional resources to address the specific needs of students in foster care.

Students in foster care have additional needs including housing, health care, and transportation; as a result, 47 percent of districts provided wrap-around services to meet the changing needs of homeless and foster youth. Some districts partnered with local community organizations (such as Meals on Wheels) to provide school supplies, hygiene items, food, and clothing; others partnered with counties to ensure students had timely foster placement and/or to arrange for housing, health care, and transportation services. There is no marked difference among high-poverty or high-Black/Latino districts.

More than a third of districts prioritized foster children in efforts to distribute devices and Wi-Fi hotspots. For students without transportation, districts also had staff deliver devices and hotspots. Other targeted support included assigning designated staff, such as a case manager, to communicate with students and foster families, identifying barriers to distance learning, connecting students and families to resources, providing enrichment programs to address social-emotional learning needs, and prioritizing foster children in tutoring programs.

# **Conclusion and Recommendations**

Districts had to adapt quickly when the COVID-19 pandemic forced schools to close abruptly. Without the ability to offer in-person learning, districts turned to new modes of educational and service delivery. Most schools remained closed for in-person learning in fall 2020, and districts have varied in their approaches to how they offer distance learning and how they address learning loss. Limited evidence suggests that distance learning may have exacerbated some disparities: low-income and EL students experienced greater learning losses, especially in earlier grades (Pier et al. 2021; Kuhfeld et al. 2020).

The good news is that most California districts made intentional efforts to support the learning of students who might face specific obstacles during the pandemic, especially high-need students. Most districts used assessments to measure student learning and provided small group instruction, supplemental instructional materials, and individualized support. More than 40 percent also provided extended learning (such as evening and weekend classes), social-emotional lessons, and tutoring programs. As a result, districts reported improvements since spring 2020, from better technology access to offering more live instruction to students.

However, districts still have a long way to go to recover the learning lost from COVID-19 disruptions. On average, students in grades 4–12 received less instruction than required by the state, and access to in-person learning was more limited in high-poverty, high-Black/Latino, and high-EL districts. About 40 percent of districts did not align their distance learning instruction to the new science or English language development standards. Adequate internet access remains an issue, further contributing to learning losses during distance learning, particular among low-income and Latino households.

As policymakers develop strategies to reopen schools and address learning loss, we offer the following recommendations:

Sustain additional state and federal support for several years to support in-person instruction and address accumulated learning losses. Supplemental state and federal support has been critical to fund the excess costs districts incurred during school closures, and to support schools' ongoing efforts for a safe reopening. The CDC estimates that the average district will need \$55 to \$442 per student to implement COVID-19 mitigation strategies in the 2020–21 school year (Rice et al. 2020); the state's reopening package offers reopening grants of roughly \$300 per student in 2020–21, and the March federal stimulus offers an average of \$2,823 dollars per student, which can be spent through 2022–23.

These investments—along with an additional \$4.5 billion from the state to address learning losses—will go a long way to support safe in-person instruction and to mitigate learning losses over the coming academic year. However, it may take up to five years to get students back to where they would have been academically if the pandemic had not occurred (Zhou, Molfino, and Travers 2021). Without sustained resources in coming years, it will be difficult for schools to fully address the learning losses that have accumulated since March 2020. Test score results from Ohio show that the average student has lost the equivalent of one-third of a year of learning (Kogan and Lavertu 2021).

More than 80 percent of parents would like schools to provide extra services to help their children catch up, and half of parents support summer school (NPR 2021). If Californians hope to overcome the pandemic learning losses and return students to their pre-COVID trajectories, the state must commit to sustained investments for several years—which will be most effective and efficient if they target those students identified as having fallen the furthest behind.

**Continue investments to close the digital divide.** Two in ten districts intend to keep some form of distance learning such as virtual school as an option after the pandemic ends (Schwartz et al. 2020), though many of the state's highest-need students still lack adequate connectivity. The December federal stimulus package set aside \$3.2 billion for broadband subsidies to qualified families, and the American Rescue Plan allocated \$7 billion for low-income students and students with disabilities to purchase devices and technologies. Average broadband costs \$68 per month (New America 2020), so the temporary subsidies, albeit vital, may not be able to close the digital divide. The Federal Communications Commission awarded \$9.2 billion to construct broadband infrastructure in rural and remote areas in the next 10 years. Coordinated and continued efforts among federal and state governments will be key to eliminating digital divides, which is important for educational equity in the short and long term.

**Prioritize in-person instruction for English Learners, students with disabilities, and foster children.** Despite improvements, most California students remained in distance learning as of fall 2020, which added challenges to students who require additional educational support services, threatening to further widen existing disparities. Although more schools have reopened for spring 2021, many cannot bring all students back due to social distancing and space constraints.

With the right measures, schools can reopen safely for small cohorts of students (Honein, Barrios, and Brooks 2021); prioritizing students with greater educational needs for a return to in-person learning would be an equity-focused compromise where full in-person instruction is not possible. Previous California Department of Public Health guidelines allowed elementary schools to reopen in-person instruction through a waiver process, but waiver schools tend to serve smaller shares of Black, Latino, and low-income students, and English Learners.<sup>17</sup> More targeted resources and support to high-need schools will be critical to leveling the playing field.

### Ensure funding and services to address mental health and enhance social-emotional learning (SEL).

COVID-19 disruptions and hardships have a profound influence on student language skills, academic achievement, and physical and mental health, compounding preexisting disparities. The current funding streams—including Medi-Cal, the Mental Health Services Act, and a \$400 million proposal from the Newsom Administration to support school-based mental health programs—are a good start. Identifying gaps in existing programs and finding effective ways to address them will be key to address the full impact of COVID-19 on student well-being, which may take years to repair.

### Expand extended learning opportunities for students, particularly those in underserved communities.

About half of districts provided extended learning opportunities such as evening classes, weekend classes, and summer school. Districts could extend the school year in summer 2021 and summer 2022 and provide targeted interventions (e.g., credit-recovery programs and weekend/evening learning camps for high-need students). The Newsom administration included \$4.6 billion in the budget proposal for summer school in 2021–22.

Establishing a statewide tutoring system could also help address learning losses and provide more opportunities for underserved and struggling students. COVID-19 is fueling a nationwide boom in private tutoring, but lessons from other states and countries, such as Tennessee and the UK, suggest that universal tutoring could be an effective strategy to close opportunity gaps (Wong 2020).

The educational challenges brought forth by the COVID-19 pandemic are arguably the greatest California's education system has ever faced. Supporting student needs and addressing learning losses exacerbated by the pandemic will require coordinated efforts between districts, the state government, and the federal government. No single policy or funding package will be sufficient to address the significant and disproportionate needs of

<sup>&</sup>lt;sup>17</sup> Based on our review of the school waiver data from CDPH.

students and schools. But without continued action and investment, preexisting disparities may worsen and many students will fall further behind—jeopardizing their future educational, economic, and health outcomes.

Our results show that while the needs are daunting, districts have made considerable efforts and improvements over the past years. Building on these efforts and increasing the capacity for districts to address student needs over the coming months and years will be crucial to a full educational recovery from the pandemic.

### REFERENCES

- Besecker, M., A. Thomas, and G. Daley. (2020, July). "Student engagement online during school facilities closures: An analysis of L.A. Unified secondary students' Schoology activity from March 16 to May 22, 2020."
- Danielson, Caroline and Helen Lee. 2010. Foster Care in California: Achievements and Challenges. Public Policy Institute of California.
- Gao, Niu, Julien Lafortune, and Laura Hill. 2020. *Who is Losing Ground with Distance Learning in California*? Public Policy Institute of California.
- Gao, Niu and Laura Hill. 2020. "Remote Learning for English Learners and Special Needs Students during COVID-19." PPIC Blog, April 10.
- Gao, Niu. 2021. Does Raising High School Graduation Requirements Improve Student Outcomes? Public Policy Institute of California.
- Garet, Mike, et al. 2020. National Survey on Public Education's Coronavirus Pandemic Response. American Institutes for Research.
- Governor's Office. 2021. 2021-22 Governor's Budget. Sacramento: CA.
- Green, L. Erica. 2021. "Surge of Student Suicides Pushes Las Vegas Schools to Reopen." New York Times. January 24.
- Hamilton, Laura, et al. 2020. Teaching and Leading Through a Pandemic: Key Findings from the American Educator Panels Spring 2020 COVID-19 Surveys. RAND Corporation.
- Hill, Laura, Andrew Lee, and Joseph Hayes. 2021. *Surveying the Landscape of California's English Learner Reclassification Policy*. Public Policy Institute of California.
- Kogan, Vladimir and Stephane Lavertu. 2021. "The COVID-19 Pandemic and Student Achievement on Ohio's Third-Grade English Language Arts Assessments." Working paper.
- Honein, Margaret A., Lisa C. Barrios, and John T. Brooks. 2021. "Data and Policy Guide to Reopening Schools Safely to Limit the Spread of SARS-Cov-2 Infection. Viewpoint." *Journal of the American Medical Association*, 325 (9): 823-824.
- Kuhfeld, Megan, Beth Tarasawa, Angela Johnson, Erik Ruzek, and Karyn Lewis. 2020. Learning during COVID-19: Initial Findings on Students' Reading and Math Achievement and Growth. NWEA.
- Lafortune, Julien, Radhika Mehlotra, and Jennifer Paluch. 2020. *Funding California Schools When Budgets Fall Short*. Public Policy Institute of California.
- Morning Consult. 2020. How COVID-19 Is Impacting LGBTQ Youth. The Trevor Project.
- New America. 2020. The Cost of Connectivity 2020: Global Findings.
- NPR. 2021. NPR/Ipsos Poll: Nearly One-Third of Parents May Stick with Remote Learning.
- Ohio Department of Education. 2021. Data Insights: How the Pandemic is Affecting the 2020-2021 School Year.
- Pier, Libby, Heather J. Hough, Michael Christian, Noah Bookman, Britt Wilkenfeld, and Rick Miller. 2021. COVID-19 and the Educational Equity Crisis: Evidence on Learning Loss from the CORE Data Collaborative. January 25, 2021.
- Rideout, Victoria, Susannah Fox, Alanna Peebles and Michael Robb. 2021. Coping with COVID-19: How Young People Use Digital Media to Manage their Mental Health. Common Sense and Hopelab.
- Rice Ketra L., Gabrielle F. Miller, Fatima Coronado, and Martin Meltzer. 2020. Estimated Resource Costs for Implementation of CDC's Recommended COVID-19 Mitigation Strategies in Pre-Kindergarten through Grade 12 Public Schools – United States, 2020-21 School Year. MMWR Morb Mortal Wkly 2020; 69:1917-1921.
- Schwartz, Heather L., David Grant, Melissa Diliberti, Gerald P. Hunter, and Claude Messan Setodji. 2020. *Remote Learning Is Here to Stay: Results from the First American School District Panel Survey.* RAND Corporation.
- Tadayon, Ali. 2020. "Teachers Grapple with How to Keep Track of Students during Distance Learning." EdSource. May 11.
- Tuma, Andrea Prado, Sy Doan, and Rebecca Ann Lawrence. 2021. Do Teachers Perceive That Their Main Instructional Materials Meet English Learners Needs? Key Findings from the 2020 American Instructional Resources Survey. RAND Corporation.
- Wong, Alia. 2020. "The Simple Intervention That Could Lift Kids out of 'Covid Slide'." The Hechinger Report. August 13.
- Zhou, Tiffany, Tomas Molfino and Jonathan Travers. 2021. *The Cost of COVID: Understanding the Full Financial Impact of COVID-19* on Districts and Schools. Education Resource Strategies. Watertown, MA.

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### ACKNOWLEDGMENTS

The authors would like to thank Jacob Jackson, Heather Schwartz, Cindy Kazanis, Edgar Cabral, Rachel Lawler and Mary Severance for their many helpful comments and suggestions on an earlier draft of the report. We are especially grateful to the California Department of Education for their collaboration on the survey instrument and survey dissemination. Emmanuel Prunty provided exceptional research assistance. Steph Barton and Becky Morgan provided excellent editorial and production assistance. The authors gratefully acknowledge the financial support of the Sobrato Family Foundation. All errors are our own.

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