California Emerging Technology Fund
Overview of the State of Technology in Education
October 2023

Background

The global pandemic placed a spotlight on the Digital Divide in K-12 education. With State and federal relief assistance, California schools swiftly provided students with digital devices and Internet access to facilitate distance learning and home-school communications. Teachers adapted to critical digital platforms such as Zoom and Google Classroom and parents became valued learning partners. Unfortunately, education institutions have not been able to maximize fully the massive infusion of resources to address the long-lasting gaps in educational outcomes that disproportionally affect students attending public schools in underserved communities. It is time for California to implement long-term solutions for integrated and equitable digital learning environments, especially in schools in low-income and historically marginalized communities. To prepare students to thrive in a technology-driven future, schools need to ensure they have access to robust technology at school and home, administrators, teachers, and parents who understand how to capitalize on these resources.

The California Emerging Technology Fund (CETF) has summarized research findings underscoring the need to make meaningful changes as well as on-the-ground knowledge and data gained from managing a model program for technology integration in Title I schools. CETF recommends that policymakers convene a Legislative Informational Hearing to identify successful technology integration best practices, and needed guidance for Title I schools. Policymakers should consider leveraging current education policies and programs in order to incentivize the implementation of these promising practices.

Research Findings on Current Use of Technology in K-12 Public Education

Statewide Digital Equity Survey: CETF has sponsored a Statewide Digital Equity Survey since 2008 in collaboration with 4 different independent research organizations, all of which have reinforced the integrity of the methodology and validated the reliability of historical trends in access to the Internet and use of technology by Californians. It is the most reliable source of data on broadband adoption in the state. Of note:

- <u>Broadband and Technology Use by Families At Home Declined Since it Peaked in 2021 from 97% to 93%.</u> Factors associated with this decline include the expiration of school-based programs that supported connectivity for disadvantaged families during the pandemic. The share of households reporting that their home broadband connection is paid by the school dropped from about 15% in 2021 to 3% in 2023.

- Students Access to Devices at Home has Declined from 95% in 2021 to about 72% in 2023, indicating that school programs put in place for distance learning did not continue, gains made in closing the educational Digital Divide were diminished and the homework divide was reinstated.
- Internet Access for Students is Not Always Reliable. Only 72% of the families reported their children were always able to connect to the Internet at home for school work.

Frontier Communications Device Distribution Project: This project included the distribution of 25,000 Chromebooks to low-income households in districts served by Frontier, assistance to parents to connect to the Internet, and training on how to use the device to help their children learn. Relevant findings from this project include:
- The Chromebooks enhanced student learning and increased parent involvement, with 63% reporting that the devices were helpful or helped a lot in assisting their children with school. Another 64% reported using the devices to monitor their child's grades.
- Almost 80% of the parents reported that the devices helped their child participate in online classes, engage with teachers, and find information online for learning.
- Parents who participated in the technology training program rated the devices as more beneficial than those who did not, demonstrating the importance of providing families with digital literacy skills for maximum benefit.
- Both lower income parents and Spanish-speaking households perceive the devices as more valuable to their personal lives than parents from higher incomes.
- Almost 43% of the parents indicated the devices helped facilitate communication with family and friends.

ACP Mobilization *Get Connected! California*: In 2022 and 2023, pursuant to the Governor's Executive Order #N-73-20 Broadband For All the subsequent 2020 Action Plan, CETF was responsible for leading the California Broadband Council *Get Connected! California* mobilization statewide to enroll eligible households in the federal Affordable Connectivity Program (ACP), which provides a monthly $30 discount towards a home broadband subscription. CETF organized and conducted 75 ACP Enrollment Events in collaboration with community partners throughout the state. To learn more about the participants' background and needs, CETF administered 1,191 intake surveys. In addition, computing devices were provided to ACP enrollees through a random drawing in return for the recipients completing a comprehensive survey and agreeing to service as a "Expert Advisors" to *Get Connected! California* going forward by participating in follow-up surveys over the next 2 years. Findings from the 412 recipients of computing devices show the importance of school-provided devices for use at home and digital literacy training for families.
- 75% of respondents earned less than $40,000 a year.
- 65% of families with children in school did not own a computing device.
- 37% said their children's school did not provide digital devices for each student.
- 47% said their children's school did not allow the devices to go home and 64% said the school did not allow family members to use the device.
- 69% said they have not been offered digital literacy training.
- 18% said they received digital literacy training from their child's school.
- 65% wanted more digital literacy training.

San José Mayor's Office Helium Pilot Project: In 2022, the San José Mayor's Office of Technology and Innovation requested that CETF assist in a Pilot Project, in collaboration with Helium, to determine the feasibility of generating revenue from a low-power wide-area network to support Internet connectivity for low-income households. Participants who were connected to the Internet by the San José Digital Inclusion Partnership (SJDIP) Round 2 Grantees were invited to participate in a follow-up survey with an incentive of $120 to cover the basic cost of affordable Internet service for a month. The following are findings from Evaluation Surveys completed by the responders:

- 33% said their children's schools did not allow computing devices to be taken home.
- 93% said access to a device and connection at home through the Pilot Project supported their families' education and claimed improvements in seeking jobs and healthcare.
- 72% participated in the digital literacy training offered with the program with 44% said they would like additional training. The respondents rating of their digital literacy skills increased by 37%.

School2Home
A Model for Integrating Technology into Teaching, Learning and Parent Engagement at Title I Middle Schools to Close the Digital Divide and Achievement Gap

School2Home, a comprehensive technology integration program, is the signature education initiative of CETF that can significantly enhance the educational landscape in Title I schools. School2Home 10 Core Components have demonstrated that effective integration of technology into teaching and learning coupled with deep parent engagement can build the capacity of Title I schools and turn around academic performance in low-performing schools in low-income neighborhoods. Program Managers help School Leadership Teams operationalize the Core Components to ensure that: (1) Every student has a device and Internet connection at school and home; (2) Families are welcomed at school and provided opportunities to learn about and use technology to become part of the school community, help their children learn, and keep them safe online; and (3) Teachers receive professional learning opportunities to strengthen their capacity to develop and infuse technology into transformative digital learning experiences and establish authentic relationships with families. Recent findings from the School2Home annual Evaluations conducted by an Independent Evaluator showed:

- **School2Home Works with High-Need Middle Schools.** All Partner Schools were located in low-income, high-density neighborhoods with broadband adoption rates below the state average. On average, the 22 active Partner Schools enrollments were 79% Hispanic and 14% African American, with all other races and ethnicities below 4%. The average percentage of socio-economically disadvantaged students was 92 %, much higher than the K-12 state average of 60%. Additionally, nearly a quarter of the students (24%) were English learners, compared to a statewide school average of 18%.

- **School Leadership Teams Reported Readiness for Home Learning.** In interviews with the evaluator, Leadership Teams consisting of school staff reported that they felt better prepared for distance learning than their counterparts in similar schools.

- **Home Internet Subscription Has Increased.** By the spring of 2022, 91% of parent survey respondents reported that they had affordable, subscription-based access to Internet access in their home, compared to 84% in the spring of 2019. Similar percentage gains have been recorded each year.

- **Majority of Students Use Technology at Home Daily.** In spring 2022, 53% of student survey respondents said they used their digital device daily to learn from home, while another 28% reported weekly use.

- **Parents Felt More Confident in Their Use of Technology.** Parent survey respondents who reported attending School2Home parent workshops registered higher confidence levels than those who did not participate. For example, parental workshop participation resulted in 18% more parents being confident in using the parent portal, 7% more parents being confident in using digital devices for their purposes, and 7% more parents being confident in advancing digital citizenship with their child.

- **Home-School Connection was Stronger.** In the 2022 Evaluation, the evaluator noted that the school-home connection has become stronger over the past 3 years with the strategic use of online portals, digital communications, and workshops to empower parents to use these digital tools effectively. For example, the percentage of parent survey respondents who say they interact with their child's teacher through technology has increased from 20% in 2019 to 48% in 2022. During the same timeframe, parental satisfaction with the information sent out from the school increased from 60% to 89%. And the percentage of parent survey respondents who say they regularly access the parent portal to check their child's attendance, grades, and assignments has increased from 42% in 2019 to 52% in 2022.

- **Student Engagement Was Increased.** Partner School Teachers have Redesigned Lessons to deepen and personalize students' use of technology. The evaluator also noted that since the spring of 2019, technology in School2Home Partner Schools has become more frequent, complex, and relevant. In many partner schools curricula are now online and teachers are expanding the breadth, depth, and relevancy of students' learning experiences.

- **Learning Loss Was Experienced At Lower Rates.** Partner schools experienced learning loss but at lower rates than the California middle school average. School2Home specifically targets Title I schools, which serve a high proportion of challenged students. The spring 2022 state testing results found that the 22 School2Home Partner Schools were more than 15 percentile points below the state averages for middle schools in ELA and math. While the School2Home cohort experienced learning losses from spring 2019 to spring 2022, it was at a lower rate than middle schools statewide in ELA and math.

CETF has learned that when implemented with fidelity, School2Home results in positive outcomes for students, teachers, and schools. Conversely, technology programs lacking strong leadership, shared vision, equitable technology access, and a commitment to families may merely serve as a classroom management burden for teachers, lead to burgeoning hardware expenses for school districts, and further exacerbate the Digital Divide by leaving students with damaged devices and inadequate access to technology at home and families unsure of how to help their students manage screen time and stay safe. CETF is well positioned to lead a discussion on how the state can capitalize on this moment to ensure investments in technology support the efforts in California to close the Digital Divide and the Achievement Gap.

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