

Assembly Education Committee Hearing
March 1, 2023

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President, State Board of Education

Chair Muratsuchi and members of the Committee, thank you for inviting me to address you today to take stock of where our students and schools are in the wake of the pandemic and to redouble our efforts to support them in full recovery.

These have been trying times and our school system is experiencing many challenges. While we have come through many aspects of the pandemic, there is much work left to be done to restore our schools. And while we have made enormous investments in our schools, there is much work to do to implement those investments well.

Our state manages the most diverse school system in the nation: 62% of our public school students come from low-income families, and 78% are students of color. Forty-six percent come from homes where English is not the first language. California's is also the 5th largest economy in the world and represents in many ways the future of our society. What we do has implications for the nation and the entire globe. California for All is not just a slogan – it is an agenda we have undertaken to bring high-quality education in an equitable way to every young person in this large and wonderfully diverse state.

These times are challenging: Across the nation and in California, educators have struggled in the wake of COVID to address student trauma, physical and mental health, and learning lags, as well as shortages of teachers and other staff. Like other states, between 2020 and 2022, we experienced declines in public school enrollment and increases in chronic absenteeism, overall declines in state test scores – especially for the youngest children and those most impacted by the pandemic – along with increases in mental health concerns.

At the same time, California has made historic investments in public education, addressing the challenges of the pandemic era with great purposefulness, and we have evidence that many of these investments are beginning to pay off. We have increased the K-14 public education budget by an estimated 37% between 2019 and 2023, with most of it (over \$80 billion for next year) invested in one of the most progressive funding formulas in the country. The Local Control Funding Formula allocates funding where pupil needs are greatest and is supported by one of the most ambitious approaches to accountability, support and continuous improvement of any in the country (the Local Control and Accountability program). We have been working intensely over the last decade to turn around decades of underinvestment following Proposition 13 that made California one of the least well-funded, lowest-performing states in the nation by 2010.¹ Amidst all of the struggles, it is important to take stock honestly and accurately and take deliberate steps informed by what we are learning.

Thus, I want to focus my testimony on where we are seeing needs, where we are seeing progress, and what I think we should focus on next to fully recover and continue to set our public schools and students on a course to success.

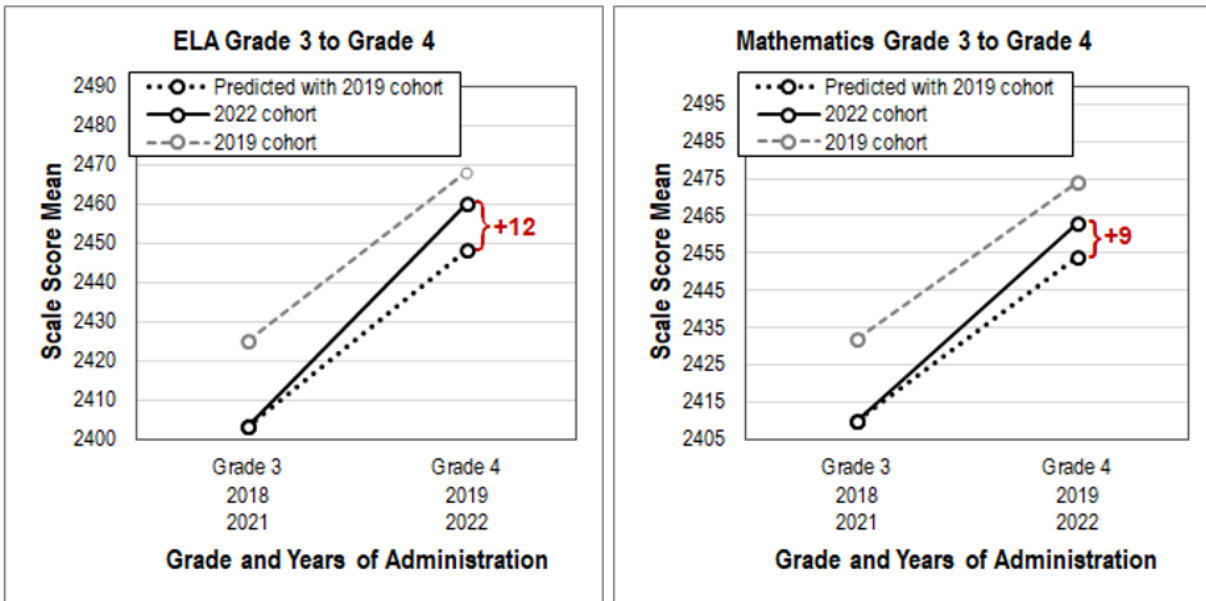
Student Learning and Achievement

One major concern has been referred to as “learning lag” – the fact that students’ gains during the pandemic years have been slower in many cases than in pre-pandemic years. Young children, in particular, experienced gaps in their learning that require learning recovery and those most vulnerable – students with disabilities, those experiencing homelessness, those who were already academically struggling – lost the most ground.

Across the nation and in California, student achievement dipped in reading and math on national and state tests between 2019 and 2022. However, California lost less ground than most other states on the national tests in math (the National Assessment of Educational Progress) – and did not show any significant loss in reading. As a result, we moved up in NAEP’s state-by-state rankings in all areas. In 8th-grade reading, California moved from 48th in the country in 2013—at the very bottom of the state rankings before its more equitable new funding formula was installed – all the way to the national average in 2022.

Among cities, both Los Angeles Unified School District and San Diego Unified School District were part of the NAEP Trial Urban District Assessment (or TUDA). Not only did both cities’ districts do better than most other cities and the urban average—which dipped by several points across the nation—but Los Angeles actually gained slightly in 4th-grade reading and significantly in 8th grade reading, while San Diego remained the top-scoring urban district in the nation in 8th grade reading, and its scores stayed stable and in the top group of cities in 4th grade reading.

Part of the reason for this is that evidence suggests that learning recovery began to occur between 2021 and 2022. Our [state test results](#) show that the 740,000 students who took the Smarter Balanced test in both 2021 and 2022 experienced steeper learning gains in most grade levels than in the years before the pandemic. (See table below showing 4th-grade growth in English language arts and math, for example.) If students continue to learn at this accelerated pace, they will not only close the gaps with prior cohorts, but will move ahead of them in the years to come.



Source: *Interpretation Guide to the 2021-22 Statewide Test Results*, California Department of Education in collaboration with Educational Testing Service, October, 2022.

What is behind these gains? Since the earliest days of the pandemic, California has invested nearly [\\$24 billion](#) to both ensure the safety of students and teachers and provide intensive supports to keep students learning. These all-hands-on-deck efforts have left no aspect of education untouched, including:

- bridging the digital divide to dramatically reduce the gap in access to computers and connectivity, which is now nearly closed;
- offering summer school in 9 out of 10 districts in the past 2 years and investing \$4 billion annually to support expanded learning time after school and in the summer;
- intensifying social-emotional and mental health supports;
- investing \$4 billion in expanding community schools that provide wraparound services to support students with nutrition, health services, and social services
- allocating another \$4 billion to dramatically improve mental health services;
- bringing in tutors and literacy coaches; and
- investing \$3 billion in teacher recruitment and retention through service scholarships, supports for preparation and mentoring, and new program models like teacher residencies.

Los Angeles, for example, did all of these things: using state and federal funds and initially dipping into its own reserves to ensure that students got food, computers, and hot spots immediately upon school site closing; offering universal summer school and tutoring for the past 3 years; and expanding mental health supports and community schools initiatives. Los Angeles also put in place a coherent plan to support reading—both in the lower grades, with systematic instruction and English language development supports, and in the middle schools, with an interdisciplinary approach that infused literacy into every subject area—giving its

students the opportunity to continue to develop their reading and writing skills throughout the grades.’

On the literacy front, the legislature and the governor together have leaned in to build on California’s earlier adoption of a curriculum framework grounded in the science of reading by: strengthening standards for preparing teachers to teach foundational literacy skills, expanding professional development for core instruction and for effective reading interventions across the grades, implementing the English language development roadmap, supporting a California Dyslexia Initiative, and investing in the development of a multilingual dyslexia screener grounded in the most recent neuroscience on reading difficulties.

All of these agendas need to continue and deepen. Meanwhile, we are preparing more literacy coaches and reading specialists who can help plant expert instruction in the highest need schools where there is often inadequate expertise. In this year’s budget the governor has proposed to expand this initiative further and to launch a Literacy Roadmap that will provide more explicit guidance about how the state’s curriculum framework can be translated into instructional practices in elementary school classrooms serving both native English speakers and new English learners. As transitional kindergarten begins its expansion, we are also deepening the PK Foundations in literacy and math so there will be a seamless learning continuum with useful assessments from preschool through the primary grades.

As important as this work in literacy is, we also need to do more in mathematics. California is further behind in math than in literacy, both on state and national assessments and we have too few students succeeding in launching careers in STEM to meet our state’s economic needs. We expect to approve a new mathematics curriculum framework later this year and will need to expand professional development to help teachers more effectively reach and teach all of their students. (As noted below, we also have to end the math teacher shortage so that all of our teachers have the content knowledge and pedagogical knowledge to support all students.) As part of the Golden State Pathways program enacted last year, we are also about to launch competitions for new high school Academies in STEM, green technologies, and teaching that will allow a new generation of young people to prepare to enter these fields with high levels of skill and, through dual credit courses, a leg up toward their college degrees.

And to continue to accelerate learning, we need to support ongoing high-quality afterschool and summer learning opportunities, augmenting classroom learning with focused tutoring supported by training for teachers, paraprofessionals, and volunteers supported under the Learning Recovery block grant and California Volunteers with assistance from the Learning Acceleration centers we established last year.

The Equity Multiplier proposed in this year’s budget will add resources for those schools serving the highest need students, and the proposed changes in the LCAP program will focus districts on ensuring that long-term English learners and any additional groups of students that are lowest performing are identified and receive targeted assistance. Equity Leads proposed in the system of support will offer expertise for districts that need it to leverage greater progress.

Teacher Shortages

We cannot make strong headway on any of these learning agendas without solving the state’s teacher shortages, which began before the pandemic and have been exacerbated by the many stresses of the last 3 years. The single most powerful predictor of student achievement is the presence of well-qualified and experienced teachers, especially for students who have been furthest from opportunity. A recent [California study](#) found that district achievement for every student group was most negatively affected by the percentage of teachers on substandard credentials or emergency permits. Yet between 2016 and 2018, a *majority* of newly entering teachers in California each year were not fully certified. Shortages have been most severe in special education, math, and science, but they have extended to every teaching field – including elementary education – in most school districts.

This is an equity issue because underprepared teachers disproportionately teach in schools serving more low-income students and students of color, expanding the achievement gap. Furthermore, these teachers leave in their first year at rates [more than twice those of fully prepared teachers](#), creating [churn that depresses student achievement](#) and further exacerbating shortages when they have to be replaced.²

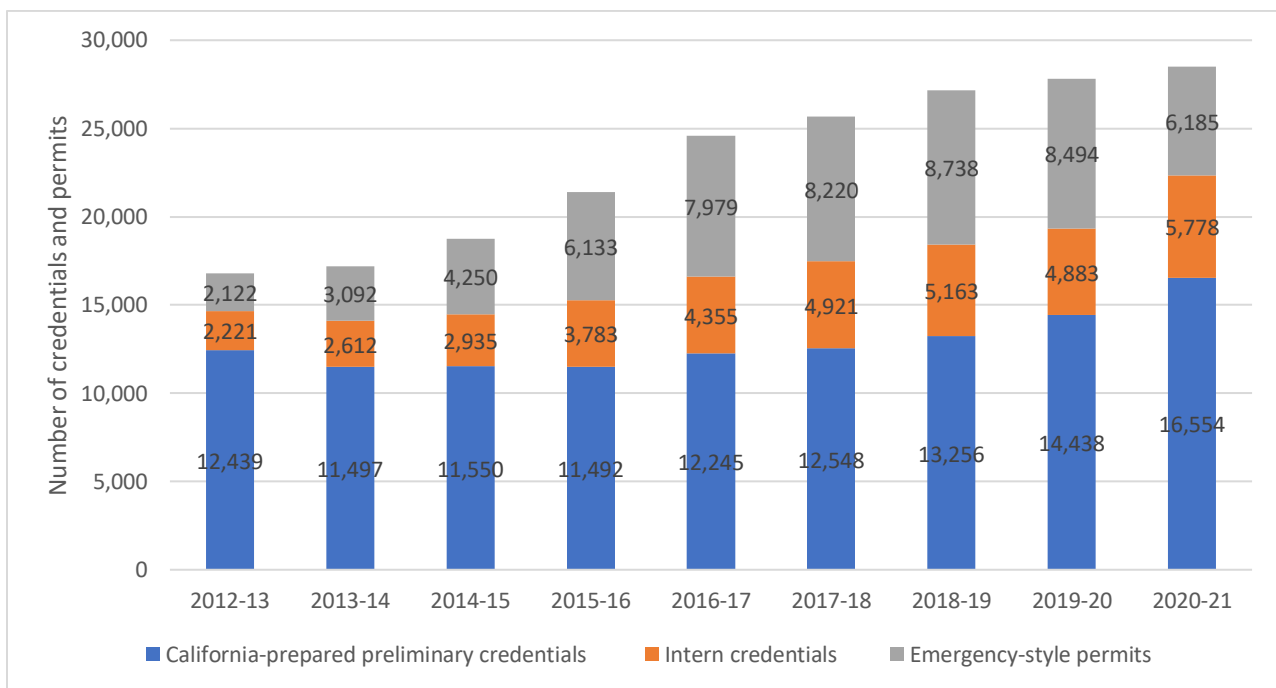
Shortages grew worse across the country during the pandemic because of the stresses teachers have experienced and the fact that salaries have lagged other occupations in many states. For example, [a national survey of teachers](#) in January of 2022 reported that 90% had experienced burnout, 74% had had to fill in for colleagues or take other duties due to staff shortages, and more than 55% planned to leave education sooner than originally planned. And indeed, an August 2022 [survey](#) of school district leaders nationally revealed a 40% increase in teacher retirements and resignations the prior year as compared to 2019. To address severe shortages, states like [Florida](#) and [Arizona](#) have dramatically reduced standards, even eliminating the expectation that teachers have a college degree.

Meanwhile, though, California has been reducing shortages through the governor’s and legislature’s investments in Golden State scholarships that underwrite preparation for teaching, supports for classified staff to enter teaching, and teacher residency programs that provide high-quality training by teacher education programs that partner with LEAs to provide a full academic year of subsidized clinical training while candidates complete credential coursework. National studies show that [residencies](#) produce a more diverse group of teachers who are better prepared and stay longer in teaching than most others.

Indeed, as of 2020-21, about 10% of new graduates applying for licenses in California – more than 1200 new teachers, 60% of whom were teachers of color – had participated in residencies and reported feeling extremely well-prepared for teaching.³ Districts reported how valuable these programs were to them in staffing their schools during the pandemic.⁴ Early implementation data show that—for the very first cohort of grant-funded residents (2019-20 graduates)—91% completed their program and were hired, and 88% were still teaching in their districts two years after graduating.⁵

As a result of all these efforts, California is one of only a few states in the country where the number of entrants into teaching has been growing, rather than shrinking. In the last two years between 2019 and 2021, when many of the new state investments were beginning to be implemented, the number of fully prepared new entrants increased by about 3300 (about 25% in just 2 years), while the number of emergency-style permits decreased by about 2500. This increase represents a break from prior trends, in which the number of newly credentialed teachers had been dropping for more than 10 years.⁶

Figure 1. New teaching credentials and permits issued in California by year



Note: This figure includes all preliminary credentials for California-prepared teachers, intern credentials, and emergency-style permits issued annually by the CTC. Emergency-style permits include short-term staff permits, provisional intern permits, limited assignment teaching permits, and waivers.

Source: California Commission on Teacher Credentialing

Here, too, California is on the right course, and our task now is to lean in to fine-tune and implement these programs well, allowing teachers to enter and stay in teaching with strong preparation and without debt. Also important for solving the teacher shortage are local actions that ensure competitive salary levels and supportive working conditions,⁷ including training principals who know how to create a collegial working environment that enables teachers to do their best work and participate in decision making.

As a state, we're making strides not only in building our pipeline of fully prepared teachers, but also in ensuring that students have equitable access to expert teaching. While still early in

implementation, the state’s National Board Incentive Program, funded in the 2021 budget, is growing the pool of expert, Board-certified teachers in California—including among teachers of color—and incentivizing them to teach in the highest-need schools. Based on data shared by the National Board for Professional Teaching Standards, the number of teachers pursuing National Board Certification in High-Priority Schools quadrupled from 415, the year before the program was established (SY20-21), to 1,727 in the first year of the program (SY21-22). The number of teachers of color pursuing National Board Certification in High-Priority Schools increased from 253 (SY20-21 before the program was established) to 1132 in the first year of the program (SY21-22). Research shows that Board certified teachers are unusually effective at promoting student learning gains, and that the new teachers they mentor also become more effective on average than other novice teachers as a result of sharing in that expertise.⁸

Student Well-Being, Attendance, Enrollment

Students continue to face a troubling array of challenges – ranging from the effects of the pandemic on homes and schools to school shootings to racial discrimination to housing and food insecurity. A 2022 CDC survey found that more than [4 in 10 adolescents](#) reported feeling “persistently sad or hopeless” during the COVID-19 pandemic. Rates of youth suicide continue to increase as students face trauma, stress, self-doubt, financial uncertainty, and loss. These troubling statistics reflect the extreme pressure our students are under as members of modern society—challenges that have only been exacerbated over the past few years.

Over the last 3 years California’s legislature has invested \$4.7 billion in mental health resources for young people, and we are working to design a more integrated, supportive system of service delivery that partners closely with schools and communities to ensure that mental health supports are readily available. We have also invested \$5 billion in a Medi-Cal initiative, CalAIM, to better integrate health services for children from low-income families, and we have increased support for social-emotional learning programs that build students skills and resources for productive relationships and problem solving. We have connected these with the \$4.1 billion devoted to community schools that offer wraparound services and supports in schools that are designed to connect to the community for a wide range of resources and to focus on wellness and academic supports that enable learning recovery.

The challenges young people experience have contributed to high rates of chronic absenteeism we are also seeking to address. California schools’ chronic absenteeism rate, which measures the number of students who missed 10 percent of the days they were enrolled for any reason, has more than doubled, from 14 percent in 2020–21 to 30 percent in 2021–22. This is also a national problem, and rates were even higher in states like [Florida](#) (32%) and [Michigan](#) (39%).

Some of last year’s high rates of absenteeism data reflect a year that started without a vaccine approved by the Centers for Disease Control and Prevention for five to eleven-year-olds (the CDC approved this vaccine in November) and when the then-new Omicron variant triggered a surge in communities across California and the nation. We are still awaiting this year’s data and

expect to see improvements, but we know there are schools that are still struggling with both absenteeism and enrollment.

Enrollment in California public schools dropped by about 270,000 students between 2019-2020 and 2021-2022 – far more than was expected from projected declines in birthrates and migration, and far more than is accounted for by reported private school enrollment increases. This is a national trend that some think corresponds in part to vulnerable students dropping out. In California, for example, about 6% of students who had been identified as experiencing homelessness did not return to school last year. It may also be a function of substantial outmigration from the state as individuals could work remotely from more affordable places or moved for new jobs or to be with extended family. There is also evidence of increases in home schooling operated in small pods by parents and others.

Academic Year	Total	Difference from Prior Year
2021–22	5,892,240	-110,283
2020–21	6,002,523	-160,478
2019–20	6,163,001	-23,277
2018–19	6,186,278	-34,135
2017–18	6,220,413	-7,822
2016–17	6,228,235	1,498
2015–16	6,226,737	-8,783

Source: California Department of Education.

Some of these trends may be reversing. Between 2020-21 and 2021-22 we saw increases at the Kindergarten and 12th grade levels but continuing declines at other grade levels. We do not have this year’s data yet.

We do know that many communities are well underway in launching transitional kindergarten and planning to bring it on-line ahead of the legislated schedule, including all four of our largest districts. Our capacity to continue to support and subsidize teacher training for this important on-ramp to school – including the creation of new teacher education programs to support the new PK-3 credential – will be very important to its success, as will ongoing efforts to secure and remodel facilities for these very young learners.

Schools that Are Succeeding

We also know that, while there are many schools that have struggled to deal with the stresses of the pandemic, there are also many that are succeeding in engaging their students and meeting a wider range of their needs than ever before. The schools that are having the most impressive successes are often community schools and others that are designed to personalize instruction and support the whole child, such as Linked Learning Academies at the high school level. They are making use of our substantial recent investments in doing so. Here are just a few of the successes educators have described to me:

Claudia Delarios Moran, Principal of **Buena Vista Horace Mann K-8 Community School in San Francisco Unified** describes the gains this year as a function of their work as a community school, which offers a wide range of supports, including night-time housing for some families in the gymnasium:

Students are reintegrating into the typical school day. Last year was a year of acclimating; this is a year of growth. Students are coming on a regular basis. They are showing up on time and staying for the whole day. They are building relationships with each other and with adults. They're turning in work; they're responding to teacher feedback. They are taking risks. They are making new friends. It feels so great to be back. It's taken us a year and a half of being back together: three semesters in, we finally feel like we're rooted and growing and it's very encouraging.

Being a community school allows us to support the whole family: socially and emotionally, having counselors on site to work directly with the students helps us to understand the needs at home and what the stress points area and how we can support them—whether through rent relief, eviction defense, getting a better job, whether the family needs therapeutic services; or helping to get through the social services application process.

We invest heavily in adult personnel to maintain a small student-teacher ratio. We use our funds to provide additional resource specialists and smaller caseloads for special ed; we pay for additional linked day staff (after school staff pushing into the school day) and those staff members are present during the day, pushing into class, participating in activities on the yard, building relationships with students that most need them. Being able to invest in adult personnel makes a huge difference...No child can hide here. We're a large school (at 600 students), but it comes down to how well each child is known.

[With expanded learning funding], we fund 826 Valencia, which pushes in during the day to support literacy skills. We fund 1:1 therapeutic services for students who wouldn't qualify otherwise; some of these services are to help develop pro-social skills in the early grades; therapists will pull students out in small groups and push in; they meet with teachers to help teachers incorporate that learning in the curriculum. We fund 5 Linked day staff.

Instructionally, if a child is falling behind, we have invested heavily with intervention teachers who work directly with students so they have a chance to catch up. But they don't just work with the kids, they also work with the teachers so the classroom teachers get strong at their Tier 1 practices, so that the classroom is joyful and engaging and rigorous place, with differentiated instruction.

We know that you have to address students' social-emotional needs, their "food clothes and shelter" needs, and their academic needs. You can't have 1 or the other. You need to address them all.

We see these kinds of successes in rural community schools as well. For example, **Lost Hills Union Elementary School District in Kern County** experienced gains in achievement during the pandemic, which leaders attributed to their community school funding and activities that focused equally on student well-being and academic achievement.

Lost Hills serves as the lead agency for the West Kern Consortium for Full-Service Community Schools, a collaboration among 6 rural districts. The Consortium has received federal Full-Service Community Schools grant funding, as well as state support through the California Community Schools Partnership Program (CCSPP). Each school in the consortium has a community school coordinator and a social worker who work together to ensure that student and family needs are met. School leaders and teachers have noted how vital the community school coordinators have been both during the pandemic and in transitioning back to in-person learning, especially in maintaining communication with families, particularly the hard-to-reach families, and in making the schools a positive environment for the students. When asked by a group of visitors from New York state about what has changed over the last few years at Lost Hills, one student responded: "I noticed our school feels more and more like a family." The Consortium also sponsors cross-district expanded learning programs and a first-of-its-kind rural Children's Cabinet that brings together key decision-makers across multiple organizations.

On the academic front, math education was identified as a focus area for the Consortium. Lost Hills used state CCSPP dollars to invest in 10-12 cycles of one-on-one video math coaching with Harvard's Mathematical Quality of Instruction initiative for teachers and has recently extended the training to instructional aides who work with small learning groups for mathematics. Principal Veronica Sanchez-Gregory is also getting math coaching and working with a small learning group to ensure that she understands the experience of the educators she is leading. These efforts are paying off. Lost Hills saw a [12% improvement in reading and a 17% improvement in math Smarter Balanced test scores](#) in 2022. Principal Sanchez-Gregory shared,

After nearly five years of community school implementation, we achieved top academic growth in our county for ELA and math. Securing double-digit proficiency growth is huge, but doing it during a pandemic year is unprecedented.

The next stages of the Consortium's work include adopting an Interconnected Systems Framework for mental health services, enhancing literacy instruction, particularly for multilingual learners in grades preschool-3rd grade, addressing chronic absenteeism using collective impact and improvement frameworks, and enhancing parent partnerships.

Over these last 2 years, the CCSPP will have supported over 450 schools that are implementing full-service community school models, and over 400 LEAs that are involved in planning for implementation of community school models at their school sites.

Other ways of wrapping around students are occurring at the high school level. Dimitrios Chronopoulos, who works at **Arroyo Valley High School in the San Bernardino City Unified**

School District, noted how important the small Linked Learning Academies are to their success with students. Arroyo houses a Business and Logistics Academy and the CORE Academy, an energy, environment, and utility pathway providing green technology training and more:

During the pandemic and even last year, over 90% of our students still attended school regularly. Arroyo Valley High School is also one of seven comprehensive high schools in San Bernardino City Unified, and our enrollment has increased when other comprehensive high schools' enrollments have declined. I know it's because of our Linked Learning pathways. Word has gotten out that if you come to Arroyo Valley High School, you can fill that toolbox with as many skills as possible to be college and career ready. But also, it's being done within a family environment, where people care about you, look out for you, and have your back.

The core of our success is our intentionality around linking our core academic courses to our CTE courses. A student goes to their math and social studies classes and their CTE course knowing that everything they are learning is connected and tied to possibilities for both college and career. The students know that their English, social studies, and CTE teachers talk daily and plan together. It creates an environment where young people are not only making the academic connection between all three but also making that student support connection.

In San Bernardino City Unified, 97% of our students receive free and reduced lunches, and the pandemic took a real toll on an already systemically underserved community. Yet, despite the circumstances, we, as educators, are excited to come to school every day. We are seeing that excitement with the kids too. For every opportunity we put in front of them, we're seeing more and more students take that step forward. We're seeing more and more students become engaged with activities during and after school. They are asking more questions, wanting to be a part of a school community, an academic community, and an industry sector community.

Esther Dabagyan, who is Principal at the **STEM Academy of Hollywood in the Los Angeles Unified School District**, put it this way:

Without a doubt, the personalized nature of our school helped us sustain high levels of student success, and academic achievement despite the pandemic. In large part, due to the Linked Learning approach and its emphasis on integrating support structures that address students' academic, social-emotional, mental, and physical well-being, we were able to leverage our strong relationships with community-based organizations, staff, students, employers and families to make lemonade out of lemons in a time of crisis. Whether we were addressing food insecurity or student mental health issues, our deep relationships within our school and outside of it with the broader community, along with our focus on providing both academic, career readiness and social-emotional support, helped us ensure students thrived, and, most importantly, that they feel safe and secure despite the tremendous uncertainty caused by the pandemic.

These successes have relied in important part on the mental health and social-emotional supports noted earlier, the investments in universal meals and other state investments in LCFF, as well as the ways in which educators have moved beyond the old factory model school designs to create new, more personalized and purposeful approaches to high school education that is connected to the many organizations and businesses in the community that want to contribute to our students' success. We should see an expansion of these kinds of models with the Golden State Pathways grants the legislature approved last year that are beginning to be issued this year.

Supporting School Systems

One last point I want to make is that educators are working extraordinarily hard in California's public schools, not only at supporting children but also at trying to launch and implement the new programs we've been funding and coordinate the enormous range of services that are needed and increasingly available. I have heard many concerns from the field about the difficulties of meeting requirements for how instructional minutes are counted, how programs are administered, how dollars are spent and recorded.

We can help our educators in part by creating approaches to programs and service delivery that are not bureaucratically cumbersome, with extensive requirements for tracking and auditing that require more and more people outside the classroom to manage the recordkeeping or unnecessary constraints on how resources can be used to meet the wide-ranging needs of children. When LCFF was being developed, my predecessor as State Board President, Dr. Michael Kirst, sought to undo what he called the "hardening of the categoricals" that was constraining thoughtful uses of funding and innovation in schools. With all of our efforts to support schools in meeting whole child needs, we must be mindful not to revert to those days.

In addition, it is essential that our schools move beyond the factory model constraints they inherited from 100 years ago, and we should avoid straightjackets that reinforce the old designs that made students feel anonymous and teachers like assembly line workers. We need to encourage new school designs that are personalized; that invite the community into the school and engage students with the community; that provide ambitious instruction applied to real-world problems; that use time, space, and new technologies to good effect; and that support the kind of innovation we need to meet today's new knowledge demands in our rapidly changing world.

I look forward to working with you to continue California's progress in building a world-class education system that can meet our needs as a state and those of our children.

Endnotes

¹Furger, R. C., Hernández, L. E., & Darling-Hammond, L. (2019). *The California Way: The Golden State's quest to build an equitable and excellent education system*. Palo Alto, CA: Learning Policy Institute. https://learningpolicyinstitute.org/media/367/download?inline&file=California_Way_Equitable_Excellent_Education_System_REPORT.pdf

² These national statistics are confirmed in California: Research from the UC California Teacher Education Research and Improvement Network show that 42% of California teachers who begin teaching on an emergency-style permit leave within 3 years, which is more than double the rate of those who begin teaching fully prepared with a preliminary credential. <https://ceterin.ucop.edu/resources/ceterin-briefs/policy-briefs/policy-brief-vol1no1-diversifying-ca-teaching-force.html>

³ Patrick, S.K., Darling-Hammond, L., & Kini, T. (2023). *Educating teachers in California: What matters for teacher preparedness*. Learning Policy Institute.

⁴ Carver-Thomas, D., Burns, D., Leung, M., & Ondrasek, N. (2022). *Teacher shortages during the pandemic: How California districts are responding*. Learning Policy Institute. <https://doi.org/10.54300/899.809>.

⁵ WestEd. Teacher Residency Grant Dashboard. <https://public.tableau.com/app/profile/westedimprovementscience/viz/CaliforniaTeacherResidencyGrantProgramDashboard/TeacherResidencyPipeline>

⁶ Darling-Hammond, L., Sutchter, L., & Carver-Thomas, D. (2018). *Teacher Shortages in California: Status, Sources, and Potential Solutions*. Palo Alto, CA: Learning Policy Institute.

⁷ Patrick, S.K. & Carver-Thomas, D. (2022). *Teacher Salaries: A key factor in recruitment and retention*. <https://learningpolicyinstitute.org/blog/teacher-salaries-key-factor-recruitment-and-retention>

⁸ National Research Council. 2008. *Assessing Accomplished Teaching: Advanced-Level Certification Programs*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12224>. Zhu, .B., Gnedko-Berry, N., Borman, T., & Manzeske, D. (2019). *Effects of National Board Certified Instructional Leaders on Classroom Practice and Student Achievement of Novice Teachers*. American Institutes of Research.