

OCTOBER 2023 ADDENDUM: EXPERT REPORT OF ANDREW HO, Ph.D.

1. My previous expert report drew 10 conclusions from my analysis of California state test scores. This addendum revisits 3 of these 10 conclusions following the October 18, 2023, release of student test scores from the 2022-2023 academic year. From my initial report:
 1. “Average college and career readiness as indicated by the California Assessment of Student Performance and Progress (CAASPP) has declined substantially among California students from a 2019 prepandemic baseline to the most recent publicly available state results in 2022 in grades 3-8.”
 2. “Educational inequality also increased in California from 2019 to 2022. Achievement gaps widened between average White students and average Black students and between average White students and average Hispanic students.”
 3. [Originally numbered conclusion #5 in my previous report.] “California neglected to release straightforward “longitudinal” analyses of school- and district-level CAASPP test scores that could have documented the magnitude of academic learning loss through the pandemic. The limitations of available analyses that the state did make available, as well as testimony from state officials who admitted ignorance or confusion about the magnitude of academic learning loss, are consistent with a pattern of state disinterest in existing test scores and what they could measure through the pandemic.”
2. My analysis of recently released 2022-2023 test scores reinforces my previous conclusions. Average academic performance continues to lag far behind 2019 prepandemic baseline levels. Achievement gaps between the average White student and the average Black or average Hispanic student have increased for all students in early grades and for economically disadvantaged students in all subjects and grades. And California continues to neglect longitudinal analyses of test scores that could accurately answer questions about the academic impact of the pandemic and subsequent academic

recovery. Overall, my evaluation of the impact of the pandemic on academic outcomes in California is worse using 2023 data than it was using 2022 data.

1. Average college and career readiness has declined substantially among California students from a 2019 prepandemic baseline to the most recent publicly available state results in 2023 in grades 3-8. Black students, Hispanic students, and White students are scoring 2-6 months behind their 2019 peers, on average. Increases in average Math scores and declines in average English Language Arts (ELA) scores from spring 2022 to spring 2023 are notable but slight compared to the substantial declines from spring 2019 to spring 2023.
2. Educational inequality increased in California from 2019 to 2023. In elementary school grades, achievement gaps widened between average White students and average Black students and between average White students and average Hispanic students. Among economically disadvantaged students, these achievement gaps widened in every subject and grade.
3. California has still neglected public reporting of straightforward “longitudinal” analyses of school- and district-level CAASPP test scores that could document the magnitude of academic learning loss through the pandemic. This continues to be consistent with a pattern of state disinterest in existing test scores and what they could measure through and after the pandemic.

Table 1. Trends in California test scores from prepandemic 2019 to spring 2023 in scale score points (left) and a rough “months of learning” conversion (right).

Subject	Grade	2019-2023 Trend (SS)			Standard Deviation	2019-2023 Trend (months)		
		Black	Hispanic	White		Black	Hispanic	White
ELA	Grade 3	-18	-20	-12	92	-5	-6	-3
	Grade 4	-14	-18	-11	97	-4	-5	-3
	Grade 5	-14	-15	-10	101	-4	-4	-3
	Grade 6	-12	-14	-13	98	-3	-4	-4
	Grade 7	-11	-12	-11	103	-3	-3	-3
	Grade 8	-10	-13	-12	102	-3	-3	-3

	Grade 3	-18	-17	-8	83	-6	-6	-2
	Grade 4	-16	-16	-7	86	-5	-5	-2
Math	Grade 5	-17	-19	-12	95	-5	-5	-3
	Grade 6	-17	-18	-14	110	-4	-4	-3
	Grade 7	-16	-16	-15	115	-4	-4	-3
	Grade 8	-18	-22	-22	124	-4	-5	-5

Note: Negative numbers indicate decreases in average scores from 2019 to 2023 in scale scores (SS) or months of learning. ELA = English Language Arts. Hispanic students are Hispanic or Latino students. Standard deviations from 2017 are shown as references to estimate effect sizes. Informal “months of learning” interpretations assume linear learning rates of 1/3 of a standard deviation over 9 months of schooling per year.

Table 2a. Selected race/ethnicity-based achievement gap trends for California test scores from prepandemic spring 2019 to spring 2023 in scale score points and “months of learning.”

Subject	Grade	Race/Ethnicity Gap Trend (SS)		Race/Ethnicity Gap Trend (months)	
		White-Black	White-Hispanic	White-Black	White-Hispanic
ELA	Grade 3	6	8	2	2
	Grade 4	4	8	1	2
	Grade 5	4	5	1	1
	Grade 6	-1	1	0	0
	Grade 7	0	1	0	0
	Grade 8	-2	2	-1	0
Math	Grade 3	10	10	3	3
	Grade 4	9	10	3	3
	Grade 5	5	7	2	2
	Grade 6	3	5	1	1
	Grade 7	1	1	0	0
	Grade 8	-4	0	-1	0

Note: Positive numbers indicate increases in average differences from 2019 to 2023 in scale score points (SS) or months of learning. ELA = English Language Arts. Hispanic students are Hispanic or Latino students. Standard deviations from 2017 are shown as references to estimate effect sizes. Informal “months of learning” interpretations assume linear learning rates of 1/3 of a standard deviation over 9 months of schooling per year.

3. Comparing the results in Table 2a to corresponding tables in my prior report, achievement gaps in spring 2023 are larger than spring 2022 in the majority of subject-grade combinations, widening in grades 4-8 in ELA and in grades 6-8 in math. Comparing the results in Table 2b in my prior report, achievement gaps are larger in almost all subject-grade combinations. Gaps widened between the average Black student and the average White student in grades 3 and 5-8 for both ELA and math, and they widened between the

average Hispanic student and the average White student in grades 4-8 in ELA and in grades 5-8 in math. Overall, educational inequality worsened from 2019 to 2023, including worsening overall inequality from 2022 to 2023.

Table 2b. Selected race/ethnicity-based achievement gap trends for California test scores for economically disadvantaged students from prepandemic spring 2019 to spring 2023 in scale score points and “months of learning.”

Subject	Grade	Race/Ethnicity Gap Trend (SS), Economically Disadvantaged		Race/Ethnicity Gap Trend (months), Economically Disadvantaged	
		White-Black	White-Hispanic	White-Black	White-Hispanic
ELA	Grade 3	8	11	2	3
	Grade 4	4	9	1	2
	Grade 5	5	7	1	2
	Grade 6	2	5	1	1
	Grade 7	3	3	1	1
	Grade 8	1	5	0	1
Math	Grade 3	11	11	4	4
	Grade 4	9	10	3	3
	Grade 5	7	9	2	3
	Grade 6	6	9	1	2
	Grade 7	5	6	1	1
	Grade 8	1	7	0	1

Note: Positive numbers indicate increases in average differences from 2019 to 2023 in scale score points (SS) or months of learning. ELA = English Language Arts. Hispanic students are Hispanic or Latino students. Standard deviations from 2017 are shown as references to estimate effect sizes. Informal “months of learning” interpretations assume linear learning rates of 1/3 of a standard deviation over 9 months of schooling per year.

- Counsel also asked me for my expert opinion on the October 18, 2023, press release from the California Department of Education (CDE) that accompanied the public release of test scores on that date. The CDE press release describes mathematics scores as showing “promising gains” and ELA scores as “consistent.” Table 3 below shows that ELA scores are as negative as the math scores are positive. From 2022 to 2023, there are gains in average mathematics scores for Black, Hispanic, and White students in early grades. And there are declines in average ELA scores for Black, Hispanic, and White students in grades 4-8. It is misleading to characterize positive trends as “promising” and negative

trends as “consistent.” It suggests that CDE is trying to put a “positive spin” on the results beyond what the underlying evidence supports.

Table 3. Trends in California test scores from prepandemic 2022 to spring 2023 in scale score points (left) and a rough “months of learning” conversion (right).

Subject	Grade	2022-2023 Trend (SS)			Standard Deviation	2022-2023 Trend (months)		
		Black	Hispanic	White		Black	Hispanic	White
ELA	Grade 3	0	3	0	92	0	1	0
	Grade 4	-2	-2	-2	97	-1	-1	-1
	Grade 5	-3	-2	0	101	-1	-1	0
	Grade 6	-3	-3	-2	98	-1	-1	-1
	Grade 7	-6	-6	-5	103	-2	-2	-1
	Grade 8	-3	-5	-3	102	-1	-1	-1
Math	Grade 3	4	5	2	83	1	2	1
	Grade 4	6	7	4	86	2	2	1
	Grade 5	4	4	2	95	1	1	1
	Grade 6	-1	0	0	110	0	0	0
	Grade 7	1	2	3	115	0	0	1
	Grade 8	-1	-1	1	124	0	0	0

Note: Negative numbers indicate decreases in average scores from 2022 to 2023 in scale scores (SS) or months of learning. ELA = English Language Arts. Hispanic students are Hispanic or Latino students. Standard deviations from 2017 are shown as references to estimate effect sizes. Informal “months of learning” interpretations assume linear learning rates of 1/3 of a standard deviation over 9 months of schooling per year.

5. The trend results in Table 3 from 2022 to 2023 would be notable in any year but are small in comparison to the overall trends from 2019 to 2023 in Table 1. They also show indirectly how achievement gaps have changed, when White student average score trends differ from those of Black and Hispanic students. They do not affect my conclusion from my initial report. Instead, they reinforce my judgment that the effects of the pandemic are substantial, lasting, and inequitable. The state has still not released straightforward longitudinal analyses that could shed more light on these inequities, suggesting continued disinterest in the value of test scores to measure and guide academic recovery. I renew my call from the conclusion of my initial report with added urgency: The state should recognize this as the educational emergency that it is and rise to meet this challenge armed with all appropriate data and support.