Achievement Gaps and Multi-Tiered System of Supports in California

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This brief examines California's Multi-Tiered System of Supports (MTSS), which is a framework designed to identify and assist students performing below grade level. MTSS involves at least three tiers of support; Tier 2 includes personalized assistance. Unfortunately, Tier 2 services are not adequately resourced, so it is not surprising that California students rank only 38th in the nation in reading and math. To move higher, it is important that the state provide categorical funding for Tier 2 services. California teachers already have a full-time job. To successfully implement MTSS, they need additional Tier 2 personnel (e.g., paraprofessional instructional aides and trained clerical staff to manage student progress monitoring) to assist them.

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Introduction

The socioeconomic backgrounds of many of California's children pose serious challenges to their school success. If the family is poor and the parents work long hours or are unemployed; if the family is homeless or there is only one parent; if a language other than English is spoken at home; if parents have less than a high school education; if parents have a debilitating illness; if the neighborhood or the water or air are unsafe, each of these and related conditions reduce children's school achievement. And then there is disability. If the child herself has difficulty learning, speaking, retaining information, sitting still, and paying attention—or has some other disability that impairs cognitive skills—any of these conditions alone are typically associated with lowered school success. Of course, children with both socioeconomic disadvantages and a disability are at even greater risk of less than successful schooling careers. In this brief, I examine how California seeks to help these children succeed at school.

Many of California's Students Are Struggling Academically

Across the U.S. in 2005, California was ranked 49th in eighth-grade reading and 44th in eighth-grade math.[1] By 2019 this had improved so that the state ranked 38th in both eighth-grade reading and math.[2] Thus, despite improvement, California has a long way to go if the reading and math achievement of our students is to reach even the national average. However, these reading and math achievement gaps are not distributed evenly throughout the state. Instead, they are concentrated among the less advantaged members of the population. Students in affluent California school districts, measured by district average socioeconomic status (SES), have reading and math scores very similar to those in other states. By contrast, students in districts of average and below average SES show much lower reading and math performance than students in similar districts nationwide.[3] Students in disadvantaged California districts score nearly a full grade level behind their national counterparts. A similar pattern is found when these district SES comparisons are made within each racial/ethnic group.

Perhaps most important, these patterns in California cannot be attributed to school-quality problems alone. Instead, these patterns—California children in mid- and low-SES districts with reading and math scores well below those of children in similar districts nationwide—are present before these children begin K–12 schooling. Thus, Governor Newsom's plan[4] to increase early education spending appears to be well targeted on the problem, particularly if it is sufficiently funded and implemented to meet the needs of children in mid- and low-SES districts. But this increase in preschool spending is unlikely to erase fully the achievement gaps in these districts. This is because few new programs are implemented perfectly, nor are they likely to reach all of the neediest children and families immediately. More important, while preschool can help children achieve school readiness, academic standards progressively increase once students enter kindergarten and some students will continue to need additional support to meet grade-

level expectations. This raises the crucial questions: How does California identify elementary school students who are below or far below grade level in the early elementary grades; what extra academic assistance do we provide to these students; and how effective is this assistance in bringing these students up to grade level?

Some Struggling Students Have Disabilities—How Are They Identified?

Historically, special education has been the primary source of extra academic assistance for students who have fallen far behind their peers in reading and/or math. The most common way to qualify for these services has been to be identified as having a learning disability (LD). The federal legislation, Individuals with Disabilities Education Act (IDEA), requires that to receive services, a student's disability must be negatively impacting their learning (typically interpreted as low performance in reading or math). At one time or another, students with LD have been identified by one of three methods: either (a) a student was found to have average or above-average aptitude for learning, but severely lower reading or math performance; (b) a student was found to have a pattern of basic cognitive processing strengths and weaknesses (PSW; e.g., working memory) that impaired their ability to learn (reading or math); or (c) a student's academic performance (in reading or math) failed to respond positively to an individually customized instructional intervention. We discuss each of these in more detail.

Severe Discrepancy

For many years, and still in some districts today, this required the school psychologist to test the student and find a large discrepancy between the student's scores on an aptitude (IQ) and achievement (usually reading) test. However, there are several problems with this identification strategy for LD. First, there is no such thing as a true test of general intellectual 'aptitude.' Most 'intelligence' tests are heavily influenced by the individual's vocabulary knowledge,[5] which is itself strongly correlated with reading and math test scores. Second, the finding of an aptitude–achievement discrepancy does not in fact have implications for instruction because identified children learn to read in a different way from other children. Instead, all children utilize the same skills to learn to read.[6] Thus, identification as LD gives no guidance regarding how to fix the problem. Third, aptitude and achievement are continuous variables—there is no agreement on what magnitude of discrepancy cutoff should be used to define LD. Finally—and perhaps most important—taken literally, the discrepancy definition would deny services to many children with low academic performance because they also score low on the IQ test. There are similar problems with the definition of Speech Language Impairment (SLI), the other common diagnosis, particularly for English learners. In fact, SLI was excluded from the DSM-5 because its identification has been shown to be too arbitrary.[7]

Processing Strengths and Weaknesses

One response to these issues, while still focusing on a process of disability diagnosis, has been replacement of the LD discrepancy criterion with a diagnostic methodology called PSW. In this methodology, the school psychologist administers a relatively large battery of tests of basic cognitive processing skills (e.g., working memory) to the student. Unfortunately, this turns out to be little better than the discrepancy methodology for helping the child get back up to grade level. This is because (a) cutoff values on all these tests are still arbitrary; (b) the method does not reliably predict which students have low academic performance and which interventions will be most effective with them; and (c) the method does not reliably predict the student's response to intervention (RTI).[8]

Response to Intervention

A research-based alternative to the discrepancy- or PSW-based disability diagnoses for special education is RTI, which is conceptually simple and direct. Each student's level and growth rate in reading and math should be regularly assessed; those performing at or above grade level can continue with the regular instruction they have been receiving, referred to as Tier 1 instruction. However, those students with either performance level or growth rate below grade level should receive extra academic help, referred to as Tier 2 instruction. This extra help might be in the form of greater attention from a teacher or instructional aide. Students who respond positively to this intervention and begin performing at grade level can return to Tier 1 instruction. Those who do not respond positively are then provided with even more intensive, individualized assistance, referred to as Tier 3 instruction. A student who continues to struggle after Tier 3 services may meet the criteria for a LD. Thus, RTI is designed to be a process through which educators gather the data to identify students with LD while also providing systematic instruction that meets the needs of all students. The 2004 re-authorization of IDEA permitted districts to use RTI rather than the discrepancy definition to identify students with LD. Following this, most states, including California, moved strongly towards this practice. Because of the difficulty schools have implementing such a complex system as RTI, some[9] experts have suggested a simplified system in which Tier 3 is simply special education itself.

Are Special Education Services Equitably Distributed in California?

For at least 50 years, racial disproportionality in special education identification has been measured without any controls for group differences in the need for academic assistance, even though the lower average SES of African American and Latinx students is correlated with lower average reading and math achievement by these groups. As a result, African American students are 'overrepresented' in special education—that is, they represent a higher proportion of special education students than their share in the overall student population. The PACE brief "Students with Disabilities in the CORE Districts" found that in California, African American students make up 13.2 percent of all students with an Individualized Education Program (IEP), though

they constitute only 9.3 percent of the population overall. In this study of CORE districts, the representation of White and Latinx children among students with IEPs was more closely aligned to their representation among the overall population (White students make up 10.1 percent of students with IEP and 10.2 percent of students overall; 66 percent of students with IEPs are Latinx, and 67 percent of students overall are Latinx).

A widely held belief has been that students of color are overplaced into special education (that is, placed at higher rates than necessary), due to teachers' racist judgments erroneously downgrading the students' performance. This belief has been incorporated into federal legislation and regulations so that states have been instructed to search for districts with such disproportionate racial identification of students for special education in order that they may be financially sanctioned. This was associated with a reduction in the identification of non-White children for special education, which was discovered only when the race/ethnic-specific placement rates of children were compared among those with similar test scores.[10] An estimate of the results for California, computed from fourth-grade reading test score data from the 2013 National Assessment of Educational Progress (NAEP) data, are shown in Table 1.

Table 1. California Proportion of Racial/Ethnic Group with IEP by Test Score Decile (N = 8,540 Students)

Test Score	Whites	African Americans	Latinx	Asian Americans
Lowest 10 percent	.54	.49	.38 **	.43
	.20	.12	.07 ***	.12
	.15	.02 **	.04 ***	.00 *
	.06	.05	.02 *	.07
Middle 50 percent	.06	.03	.02 **	.00 +
	.05	.07	.02 *	.02
	.05	.00 +	.01 ***	.04
	.05	.02	.01 **	.02
	.02	00	.03	.00
Highest 10 percent	.01	00	.00	.01

Note. Significance levels based on difference of proportions Z tests in which each race/ethnic group is compared to Whites in the same test score decile. $+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Source. Author's calculation from 2013 NAEP data (nationsreportcard.gov), restricted to California.

The table shows that, within each race/ethnic group, the need for academic assistance—as measured by reading test scores—is an enormously powerful determinant of special education placement rates. For each group, by far the highest rate of disability identification occurs for students in the bottom decile of test scores, and these rates fall dramatically when we move up

the test score distribution. Further, at each test score decile, the highest placement rates are for Whites. Thus, for example, 54 percent of Whites scoring in the lowest decile have an IEP, indicating that they qualify for special education, but the rates for African Americans, Latinx, and Asian Americans are, respectively, 49 percent, 38 percent, and 43 percent. Similar underrepresentation of non-Whites occurs at each test score decile. Particularly in the second and third test score deciles, the White special education rate is substantially higher than that for non-Whites.

These patterns of special education participation are generally similar to those seen nationally.[11] The largest difference is that on the national level, Whites in the lowest test score decile have a much higher special education participation rate (their rate nationally is 73 percent, whereas in California it is only 54 percent). For White, African American, and Latinx students in California, it appears that approximately half of the academically neediest (those scoring in the bottom 10 percent on academic achievement) are not receiving special education services. While there are many reasons other than disability that can influence low test scores, these patterns are particularly concerning when special education is the primary resource available for students in need of academic support.

How Successfully Has RTI Been Implemented?

Proponents of RTI have noted its many potential advantages: identification of students based on risk rather than deficit, early identification (rather than "waiting to fail"), early instructional assistance, reduction of identification bias, and linkage of identification assessment to instructional planning. And since the 2004 re-authorization of IDEA validated RTI as a method for identifying students with a LD, it has become the most widely used approach to both identification and remediation of below-grade-level performance in reading or math. However, it is important to recognize that RTI is a very ambitious and demanding policy whose benefits may not be realized if it cannot be successfully implemented. The program calls for every student's reading and math performance to be evaluated multiple times during the school year, so that those students performing below grade level can be scheduled for extra learning assistance. To accomplish this, every teacher is to undertake student assessment, identification of problems, and the selection and scheduling of an appropriate intervention for every one of their students every 6 weeks, or a total of 5 to 6 times during the school year. These are add-on activities to what is already a highly demanding full-time teaching job. This is particularly burdensome in low-SES districts, where as many as half of the students in a class may be performing below grade level. Typically, no extra funding is earmarked for additional school personnel to help with these tasks.

How successful has this policy been since its 2006 implementation in California? Not very successful since, as already noted, the state ranked only 38th among all states in reading and math performance in 2019, a result attributable to the lagging performance of California school districts in mid- and low-SES communities. However, this is hardly surprising, since the

national evaluation of RTI[12] found no significant positive academic impacts of the program in Grades 1, 2, or 3. This study had the strengths of being large (more than 20,000 students in 146 elementary schools across 13 states, including California), being focused on schools with at least 3 years of implementing RTI, and being conducted with rigor by an expert team. There was also an implementation study in which the RTI practices of the 146 veteran schools were compared with the practices of 1,300 randomly selected schools. This identified challenges to successfully implementing RTI.

Because this national study included California schools, and because the great variety of schools in the study likely experienced the issues also experienced by California schools in implementing RTI, the lessons from this study provide the best available evidence for implementation issues in California. These include (a) reading intervention groups of students that are too large to be effective; (b) limited training and ongoing support and management for interventionists; (c) intervention times overlapping with core instruction times during the school day, so that identified students missed some core instruction; (d) many RTI schools erroneously providing supplementary instruction for students who were already performing at grade level, reducing the resources available for those who really needed them; (e) Tier 2 students at different performance levels (e.g., just below the cutoff test score compared to further down the distribution) perhaps needing different curricular interventions but instead being treated with 'one size fits all'; (f) the specific intervention curricula used in the RTI evaluation being based on principles derived from programs for which rigorous research had shown significant positive effects, but were not themselves subject to rigorous evaluations; (g) even when subjected to rigorous evaluations, such intervention programs often failing to produce expected effects when broadly scaled up to large numbers of schools outside the oversight of the original researchers; and finally (h) the intervention curricula not being well aligned, on a weekly basis, with reading instruction in the students' classroom. This list of challenges should give pause to anyone believing that simply mandating an RTI program statewide will reduce or eliminate the substantial and longstanding achievement gaps within California.

MTSS and Some Cautionary Tales

Despite improvement over the past 15 years, California is still well below the national average according to results from the NAEP. The state has large achievement gaps for socioeconomic groups, particularly in lower SES districts. It also has special education participation rates below the national average among students performing in the bottom test score deciles, particularly among non-White students with low performance. And yet, California, which adopted RTI in 2006, was among the earliest states to do so. Consistent with results from the national evaluation of RTI, the program does not seem to have made big strides in raising the reading and math achievement of students who have fallen significantly below grade level. One might expect that, in response, California would intensify the resources available to teachers to better implement RTI. However, the

state has instead proclaimed plans for implementing even more elaborate and demanding versions of the program. These are known as RTI[2], PBIS, and MTSS.

RTI[2] stands for Response to Instruction and Intervention, PBIS for Positive Behavioral Interventions and Support, and MTSS for Multi-Tiered System of Supports, a framework that encompasses the other two. Scaling up MTSS Statewide (SUMS) became the plan, first implemented in 2017, of the California Department of Education (DOE). Administration and training have been provided by the Orange County DOE. The program description[13] says that "MTSS comprises three tiers of support: (1) universal supports designed to improve academic, behavioral, and social-emotional outcomes for all students; (2) supplemental supports for students who need additional support, and (3) intensified supports for students with the greatest needs." Thus, beginning in 2017, the California DOE stated that not only would all state districts and schools implement the three-tier RTI system but also that this implementation would go beyond monitoring and providing extra academic assistance where needed and would now apply to individual student social-emotional and behavioral needs. Implementation followed the state's Local Control Accountability Plan (LCAP) in expecting each district to implement MTSS in their own way and with their own funds. Between 2015 and 2019 the legislature provided $45M for this purpose, but the money has been spent on training for local district administrators. No funds have been earmarked for extra teachers, aides, or other personnel (for example, staff to administer and analyze student test scores every 6 weeks) to actually help deliver these services. Thus, the requirement to implement MTSS could be likened to the unfunded mandates that the federal government often places on states. From a teacher's viewpoint, much more work has been added but no extra resources provided.

All the evidence points to the likelihood that most California schools, like those elsewhere, have not been able to implement RTI fully and successfully. Without added personnel on the ground, they are not likely to implement successfully the more demanding MTSS. Prior attempts to scale up researcher-designed programs have produced a number of cautionary tales. Researcher-published policy and intervention effect sizes almost never replicate when implemented on a large scale. Instead, what appear to be exemplary programs when tested by their inventors on a small scale have either much smaller effect sizes or no effect at all when implemented on a large scale.

This caution was first reported in a 1987 paper by Peter Rossi, which summarized previous research by stating that "few impact assessments of large scale social programs have found that the programs in question had any net impact."[14] There are many recent examples[15] of this phenomenon in education. Indeed, the December 2019 issue of a leading journal, *Educational Researcher*,[16] was entirely devoted to articles examining lessons from the widespread failure of programs with positive effects in small-scale random assignment experiments to replicate these results when scaled up in real-world contexts.

The message of these articles is that we must focus on 'scale-up failure' as an expected outcome and design our efforts accordingly. One article, after reviewing cautionary tales about literacy interventions that failed to scale up successfully, observed that real-world school contexts vary greatly, and that researchers need "(a) to attend to relationships with educators across a school system in order to identify and remove *systemic* and unanticipated barriers to implementing an evidence-based intervention, (b) to collaborate with educators to learn for whom and in what contexts an intervention works best, and (c) to partner with practitioners to first implement an intervention with fidelity and then with structured adaptations.[17] In the following section I will apply these recommendations to the implementation of MTSS in California.

What Will It Take for MTSS to Support All of California's Students?

Despite the absence of a study showing the details of how California schools are coping with the demands of RTI, the state is moving towards having all schools implement MTSS, a more ambitious and demanding version of RTI. How can we move forward from this situation? Here are some next steps for positive progress:

- **Focus on increasing school readiness.** Governor Newsom has already committed the state to an Early Childhood Policy initiative, one goal of which is to increase school readiness at kindergarten entry, particularly for children from disadvantaged backgrounds. Increased school readiness will boost the success of these students as they move up the grade levels, but will not, by itself, eliminate California's achievement gaps. This is because the most serious learning challenges begin in Grades 1–3, where students learn to read and do basic math. And this is where schools have inadequate Tier 2 resources to supplement the instruction of students performing below grade level.

- **Secure resources for meaningful Tier 2 interventions for students in Grades 1–3.** An initiative to provide these resources could play an important role in raising the performance of California students—particularly those performing below grade level— up closer to, or above, the national average. Such an initiative might involve state funding so that every first-, second-, and third-grade teacher in low-income schools is provided an instructional aide who can deliver extra instruction to below-grade-level students either one-on-one or in small groups. This would be a trained and supported paraprofessional working closely with each teacher and using evidence-based curricula that are fully integrated with classroom instruction. It might also include training for a specifically designated school employee, or provision of a school-based analyst, to undertake the every-6-week student assessments and instructional scheduling required by MTSS. Since, under California's local control policy, districts are themselves responsible for deciding on, implementing, and funding their instructional mix, it is unlikely that the state alone will fund hiring these instructional aides or school-based

analysts. However, the state DOE could encourage, and perhaps provide matching funds for, districts interested in exploring these options for Tier 2 service provision. If such state funding becomes available, it is important that it be categorical, and directed towards increases in student performance monitoring and Tier 2 intervention services in Grades 1–3. Otherwise, such resources are likely to be treated as fungible in district budgets.

- **Bring resources and training to the classroom level.** The state continues to push policies and programs that increase the workload of already overburdened teachers. To alleviate this—and provide the conditions for MTSS to be implemented fully and effectively—additional resources and training must be provided at the classroom level. It is not sufficient to simply provide training for higher-up district administrators. Instead, a mechanism must be found to provide coaches in the schools to work with teachers on a daily basis, dealing with real-world contingencies to overcome obstacles to the full and successful implementation of MTSS.

- **Design for over-time data collection and quality improvement.** It is imperative that we acknowledge the reality that student success does not automatically follow whenever a new statewide initiative is rolled out. Instead, we should follow researchers' advice to expect failure at the beginning and design for continuous implementation, data collection, feedback, and improvement over a multiyear period.[18] It would be best to designate a modest-sized subset of California districts to begin the new effort, and to design a multiyear, four-stage process in which enhanced Tier 2 resources are provided to each school; teacher decisions on resource deployment are made and implemented during a pilot year; results are assessed and modifications are implemented in subsequent years; and results across the implementation schools are aggregated so that further modifications can be made before the program is extended to a new set of districts.

Conclusion

RTI, and even more so, MTSS, have extraordinarily ambitious goals. Never before has California implemented widespread and explicit efforts to bring *all* children, including the most disadvantaged, up to grade level in reading and math. History suggests this will not be easily accomplished. However, making a major planning and financial investment designed for implementation at the individual classroom and teacher level in the effort to do so, is bound to yield valuable returns to the neediest students and to the state as a whole.

Endnotes

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2   See nationsreportcard.gov

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15 More recent examples include (a) the highly touted, randomly assigned class size reduction effects of Project STAR that failed to replicate when tested statewide both in California and in the pilot state of Tennessee; (b) the highly respected Success for All program that, when scaled up and tested in 37 schools across five school districts, produced positive effects on phonics knowledge but failed to reproduce previously touted effects on reading fluency and comprehension; (c) a large state preK program, implemented in Tennessee, that failed to replicate positive results reported from a smaller version of the program; (d) an evaluation of special education using nationally representative data that failed to find positive effects on reading or math; and (e) the already mentioned null findings from the RTI evaluation.

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