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Accelerating Opportunity: The Effects of Instructionally Supported Detracking

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How can schools increase access to Algebra I while ensuring all students have the support they need to succeed?

For decades, educators and policymakers have debated when students should take Algebra I. Timing matters: taking Algebra earlier, typically in 8th grade, opens the door to advanced math courses in high school, while taking it later can limit college and career opportunities. Yet access to early Algebra has long reflected deep inequities. Tracking systems have historically placed lower-performing students, disproportionately those from low-income backgrounds and students of color, into remedial or delayed math sequences. For example, in 2021, 27% of white 8th graders in the U.S. were enrolled in Algebra I, compared to just 16% of Black 8th graders. These systems perpetuated opportunity gaps and limited who could reach higher-level courses like Geometry, Algebra II, and Calculus before graduation.

Many districts have since tried to "detrack" math placement and enroll more students in Algebra I earlier, but results have been mixed. When schools expanded enrollment without investing in teacher training or supports for students who entered underprepared, early access often became premature access, leading to frustration and higher failure rates. When instruction wasn't adapted to meet a wider range of needs, lower-performing students often struggled to keep pace, while higher-performing students saw reduced gains as teachers lowered rigor. This leaves districts in a tough position. If they keep tracking systems, they continue to sort students in ways that limit opportunity. But if they accelerate all students into Algebra too early, they risk setting many up for failure. Without careful design and resources, efforts to fix one problem risk creating another.

A new study offers the strongest causal evidence to date that instructionally supported detracking (expanding Algebra I access while investing in teacher capacity and tailored supports) can both raise achievement and close gaps. The researchers studied a California district that placed 9th-grade students with prior math scores well below grade level into Algebra I courses, instead of remedial pre-Algebra. Crucially, the policy shift was paired with comprehensive teacher professional development, coaching, and collaborative planning time to help educators adapt instruction to a wider range of student needs.

The results challenge long-standing assumptions and suggest that detracking can work when it's done deliberately, with a focus on strengthening instruction and ensuring teachers have the tools, time, and support to help every student succeed in grade-level math.

THE INITIATIVE

The Algebra I Initiative tested a new approach to expand access to rigorous math by eliminating remedial pre-Algebra placements and supporting all students to succeed in Algebra I. The initiative was backed at the district level, ensuring consistent curriculum alignment, scheduling, and monitoring. A critical part of the intervention was teacher support to improve instruction in mixed-achievement classrooms. This included:

- Professional Learning: 15 days of professional development on differentiated instruction and high-impact strategies.
- Instructional Coaching: Four coaching sessions per semester and on-site support.
- Collaborative Planning Time: Teachers were given an extra planning period and participated in collaborative lesson planning.

STUDY AND METHODS

This study used a randomized controlled trial (RCT) to evaluate the impact of expanding access to Algebra I for students who, under traditional placement policies, would have been assigned to pre-Algebra. Incoming 9th graders who scored below the district's Algebra I placement threshold were randomly assigned to:

- Treatment: Algebra I with enhanced instructional supports described above
- Control: Pre-Algebra remedial course

Researchers followed students for multiple years, tracking outcomes such as math test scores, attendance, credit accumulation, and progress through advanced math courses. By comparing outcomes between the randomly assigned groups, the researchers could isolate the effect of the detracking intervention from other factors, providing strong causal evidence of its impact on student achievement, attendance, and credit accumulation.

KEY FINDINGS

1. **Students assigned to Algebra I outperformed peers in remedial math across all key outcomes: math achievement, credits earned, attendance, and staying enrolled in school. These positive results are in contrast to much of the existing research on accelerating below-grade-level students.**
    - Math Achievement: Students had 11th-grade math scores that were about 0.2 standard deviations (SD) higher than control group peers. The authors note that this impact is also

large relative to learning trajectories at this age, and this effect size across grades 9 to 11 roughly translates to an entire additional year of math learning.

- Math Credit Accumulation: Students earned more total math credits by grade 11. Treatment students were 14 percentage points more likely to pass Algebra II by 11th grade than their control group peers.
    - Note: Half of the below-grade-level students assigned to Algebra I initially failed the course and had to retake it or take a bridge class in 10th grade. The other half advanced directly to Geometry, compared to almost none of their peers in the remedial track. By 12th grade, treatment students were more likely to pass Algebra II, showing that early acceleration, even with setbacks, leads to stronger long-term outcomes than starting on a remedial path, where upward movement is rare.
- Attendance: Students had higher attendance rates across all four years of high school.

Remaining Enrolled in School Through 12th grade: Students were 13 percentage points more likely to remain enrolled in the district through 12th grade.

2 The initiative was particularly effective at increasing academic performance and attendance for low-income students.

- The initiative improved academic outcomes most for male and low-income students.
- The initiative improved attendance most for female and low-income students.

3 The initiative raised outcomes for lower-performing students without harming higher-performing peers.

- Students already eligible for standard Algebra I experienced no decline in achievement, suggesting that detracking with instructional support can raise overall performance without lowering rigor.

4 The initiative was about six times more cost-effective than simply increasing general per-pupil spending by the same amount.

- The initiative cost approximately $3,950 per below-grade-level student to implement, which includes costs for teacher training, coaching, and course releases for planning. When the researchers calculated how much the program improved student outcomes relative to its cost, they found it was about six times more cost-effective than simply increasing general per-pupil spending by the same amount. In other words, dollar for dollar, this targeted intervention produced much larger learning gains than a comparable increase in school funding that wasn't tied to a specific instructional strategy.

IMPLICATIONS FOR POLICY AND PRACTICE

1 Accelerating students into an Algebra I class that includes instructional support for teachers can improve academic outcomes without harming high-achieving students.

2 District leaders considering detracking should budget for sustained instructional support, not just course placement changes. The success of this initiative likely depended

on pairing Algebra I access with professional learning that equipped teachers to differentiate instruction and support a wider range of learners. Therefore, access expansion efforts must include investments in curriculum, coaching, and teacher capacity.

3 **Detracking by "raising the floor" for lower performing students may be more viable than detracking by "lowering the ceiling" on high achievers.** This "supportive acceleration" Initiative faced much less pushback than "Algebra-for-none" policies previously observed in places like San Francisco Unified School District.

FULL WORKING PAPER

This report is based on the EdWorkingPaper "*Accelerating Opportunity: The Effects of Instructionally Supported Detracking,*" published in October 2024. The full research paper can be found here: https://edworkingpapers.com/ai24-986.

The **EdWorkingPapers Policy & Practice Series** is designed to bridge the gap between academic research and real-world decision-making. Each installment summarizes a newly released EdWorkingPaper and highlights the most actionable insights for policymakers and education leaders. *This summary was written by Christina Claiborne.*