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Research Evidence to Inform Practice

When the Classroom Composition Changes:

Peer Effects and the General-Education Classroom Under Open-Enrollment Advanced Tracks

A Research Brief on What Districts Should Monitor
After an Opt-In Advanced Coursework Policy Is Introduced

• Nabit Bajwa, Sanmay Das, and Seth B. Hunter – JUNE '26

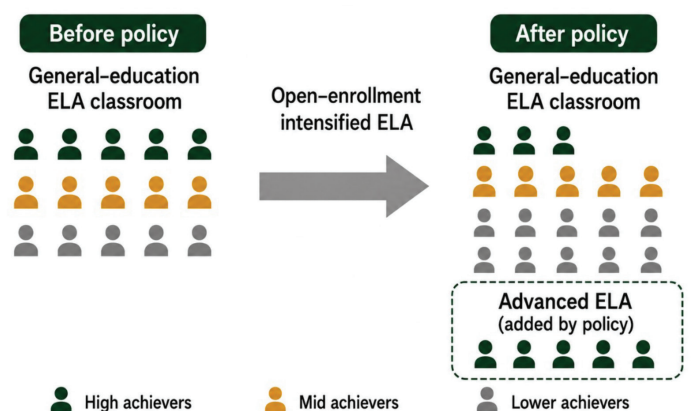


When school districts open advanced courses to all students, the central policy question is often who walks through the door. Equally consequential is what happens to the classrooms students leave behind. When higher-achieving students opt into a new advanced course, the general-education classrooms that remain become more academically homogeneous and, in many districts, demographically reshaped.ⁱ Whether that reshaping helps, harms, or has no measurable effect on the students who remain has long been disputed in the research literature.ⁱⁱ

This brief draws on two sources of evidence: peer-reviewed research on classroom peer effects and instructional adaptation, and findings from an empirical analysis conducted in partnership with a medium-sized public school district that recently introduced an open-enrollment, opt-in, intensified English Language Arts course at the middle-school level. The new policy created a clean compositional shock: high-achieving students moved into the advanced course, and the general-education classrooms that remained lost their academic right tail.

The district analysis found no detectable decline in end-of-year reading achievement for the lower- and middle-achieving students who remained. This pattern is consistent with a similarity-and-focus interpretation: when the within-class achievement range narrows, teachers can target instruction more effectively, and that benefit can offset the loss of higher-achieving peers.ⁱⁱⁱ The focus mechanism is not automatic, however; it depends on whether teachers have the diagnostic tools, materials, and time to adapt instruction to the new range. The remainder of this brief reviews what prior research suggests and identifies strategies for districts to consider.

Illustrative Compositional Shock



*High-achieving students opt into advanced ELA,
reducing high-achiever peer exposure in general-education classrooms.*

Figure 1. Illustrative example of compositional shock leveraged for the empirical analysis

What Research Says About Peer Effects and Classroom Composition

Two interpretive mechanisms

The peer-effects literature does not offer a single prediction for what happens when classroom composition changes. Two mechanisms are especially useful for interpreting the district's results. The exposure-based view predicts that any increase in classmates' average prior achievement raises a student's outcomes.^{iv} The similarity-and-focus view holds that when the within-class achievement range narrows, teachers can target instruction more precisely, and that targeting benefit can dominate the loss of exposure to higher-achieving peers.^v This distinction matters because empirical research suggests that peer effects are not fully captured by classmates' average achievement alone. For example, prior work finds that peer effects are small in simple linear models but become more visible in nonlinear specifications that account for both a student's own achievement level and classmates' achievement levels.^{vi} The most influential evidence in the debate came from engineered classroom assignments at the U.S. Air Force Academy, where researchers used an exposure-based model to deliberately mix low- and high-ability cadets.^{vii} The intervention backfired: lower-ability cadets performed worse than under random assignment, establishing a strong empirical caution against the assumption that more high-achieving peers mechanically benefit everyone else.

Tracking and the instructional-targeting channel. The most direct evidence comes from a randomized experiment in Kenyan primary schools, where schools were randomly assigned to track students by initial achievement or to teach all students in heterogeneous classrooms.^{viii} Tracked classrooms produced higher achievement for both the top and bottom halves of the distribution, with no evidence that lower-achieving students were harmed. The dominant interpretation is that tracking allowed teachers to target instruction once the within-class range narrowed. Randomized evaluations of remedial-education programs in India—and subsequent evaluations of personalized computer-assisted learning at scale—reproduced the same pattern: large gains when instruction was matched to a child's actual level rather than the official grade-level curriculum.^{ix} Together, the literature suggests that classroom composition matters through teacher response, not through direct peer exposure, and that the response is not automatic.



Findings from a District Partnership

The Policy Shock

In partnership with a medium-sized public school district, we analyzed a recently introduced open-enrollment, opt-in, intensified English Language Arts course at the middle-school level. Before the policy change, all students were taught in heterogeneous general-education ELA classrooms. The new policy made intensified ELA available to every student through self-selection, with enrollment driven by student and family choice rather than by test-score cutoffs or teacher recommendations. In the first year, roughly one-third of students opted in, drawn disproportionately from the upper end of the prior-achievement distribution. The general-education classrooms that remained lost their academic right tail.

To assess whether the policy harmed the students who remained, we constructed a counterfactual control group from pre-policy data. We first estimated each student's likelihood of opting into intensified ELA using observed baseline characteristics, including prior achievement,

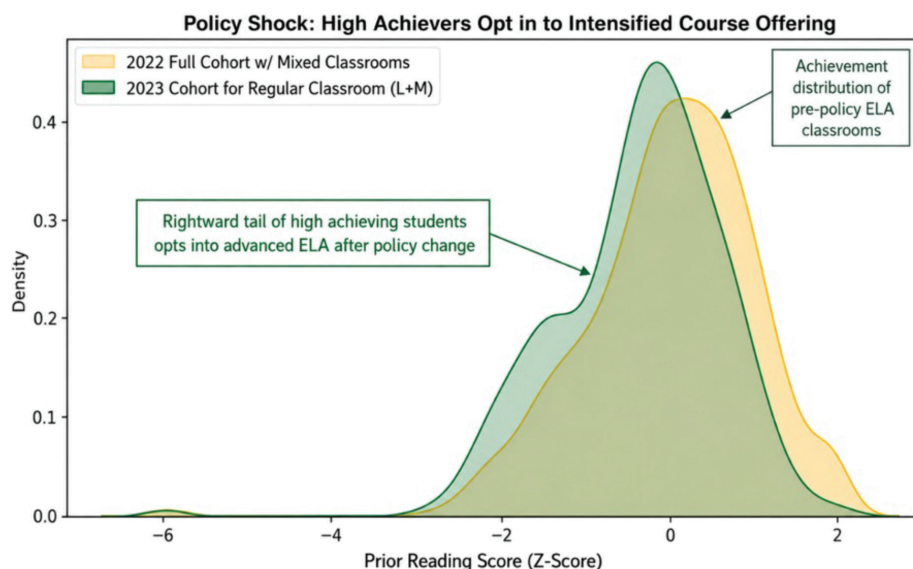


Figure 2. Distribution of prior reading achievement in general-education classrooms, pre- and post-policy.

attendance, GPA, course track, demographics, and program indicators. We then matched each post-policy general-education stayer to a pre-policy student with a similar predicted uptake score, using one-to-one nearest-neighbor matching with replacement. We compared end-of-year reading

achievement between the actual post-policy general-education students and a matched pre-policy group, focusing on students below the 67th percentile in prior reading and adjusting for prior achievement, Grade 6 math context, and student demographics.



No detectable decline for students who remained.

Removing the higher-achieving students from general-education classrooms did not produce a detectable decline in reading achievement for the students who remained. The average estimated effect on lower-achieving students was small and not meaningfully different from zero, and the estimate for medium-achieving students was likewise close to zero. Baseline gaps associated with poverty and disability persisted at roughly the magnitudes observed in prior research. (Note: this analysis covers one district, one year, and one subject; it cannot rule out small effects below the precision of the data, and it cannot speak to longer-term outcomes.) Notably, the average result masks an important distributional caution. Quantile regression estimates suggest that post-policy associations were more negative near the lower tail of the Reading 7 distribution, roughly -0.18 standard deviations at the 5th and 10th percentiles, while estimates near the median were close to zero.

This pattern is most consistent with the similarity-and-focus mechanism, in which a narrower within-class achievement range allows teachers to target instruction more effectively—and inconsistent with the exposure-based prediction that removing higher-achieving peers should mechanically reduce achievement for the remaining students. The mechanism, however, is not automatic; it operates through teachers' ability to adapt instruction.

Reading outcomes for students remaining in general education classrooms

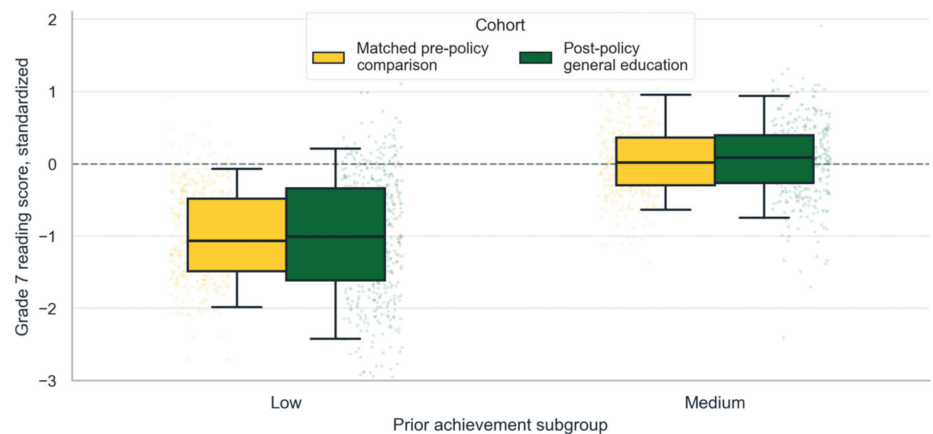


Figure 3. Reading outcomes for students remaining in general-education classrooms, by prior-achievement subgroup and cohort. Boxplots compare standardized Grade 7 reading scores for lower- and middle-achieving students in the matched pre-policy comparison group and the post-policy general-education group. Boxes show the interquartile range, center lines show medians, whiskers show the 5th to 95th percentile range, and dots show individual students. The figure provides descriptive evidence on outcome distributions for pre and post policy years.

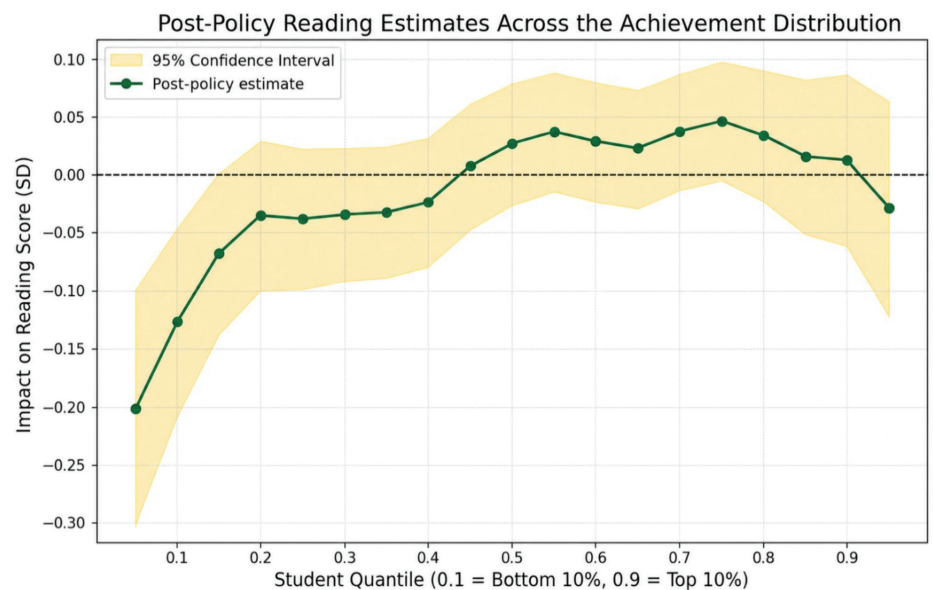


Figure 4. Distributional estimates of the post-policy association with Grade 7 reading achievement. Points show quantile-regression estimates of the post-policy general-education environment across the conditional reading-score distribution; the shaded area shows 95% confidence intervals. Estimates are most negative in the lower tail, close to zero through the middle of the distribution, and imprecise in the upper tail. This suggests that small average effects may mask greater vulnerability among students near the bottom of the outcome distribution.

Why the Null Is Conditional

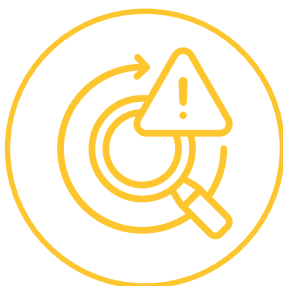
If the focus mechanism is doing the work, the proximate cause of the null is not classroom composition itself but teachers' ability to target instruction to the new, narrower achievement range.^x The Kenyan tracking experiment, the Indian remedial-education evaluations, and the Teaching at the Right Level body of work all converge on this interpretation.^{xi} The policy lever is therefore not "who is in the classroom?" but "what does the new classroom now require to make targeted instruction possible?" Without a diagnostic-assessment infrastructure, curricular materials matched to the new range, professional development on differentiation, and protected time for small-group instruction, the focus benefit cannot operate—and the same compositional change could, in some implementations, harm the students who remain.

Evidence-Informed Strategies for the Post-Policy Classroom

The strategies below build the conditions under which the focus mechanism can actually operate. The randomized evidence on the targeting benefit is strong enough that districts should not assume the benefit will materialize in the absence of these supports.^{xii}

Diagnostic Assessment

A regular formative-assessment cycle—at the beginning, middle, and end of each unit—gives teachers usable information about where students actually are, rather than where labels suggest they ought to be.



Protected Classroom Time

Pacing-guide flexibility and explicit scheduling for small-group instruction are the levers most directly under district control to give teachers time to identify levels and teach to them.



Curricular Materials Matched to the New Range

After the higher-achieving students leave, existing materials may be calibrated to a range the classroom no longer contains. Districts should audit existing ELA materials against the new classroom range and procure or develop level-grouped supplementary materials where the existing curriculum is mismatched.



Professional Development Focused on Differentiation

Reorienting existing coaching capacity around differentiation strategies and small-group instruction matched to the formative-assessment cycle is the most direct way to translate diagnostic information into instructional action.



Why District-Embedded Analysis Matters

Research on research-practice partnerships documents that evidence generated within a district's own context is more likely to inform practice than externally produced findings alone.^{xiii}

General evidence can establish that classroom composition can be neutral-to-positive for lower-achieving students when teachers are positioned to adapt instruction. Only a district-embedded analysis can establish that this district's own classrooms experienced no detectable decline after a real compositional shock and identify which conditions will determine whether that outcome holds going forward. For neighboring districts, these findings offer a benchmark and a model for analysis with their own data.



Conclusion

Open-enrollment advanced coursework policies reshape the general-education classroom. The evidence here suggests such a shock need not harm the students who remain—but the neutral outcome is conditional on the instructional supports districts deliberately build. Without them, the same change could produce a measurably worse one.



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