



Annenberg Institute
BROWN UNIVERSITY

Evidence in Action
Rhode Island

Staying on Track:

Insights into Algebra 1 Course-Taking
Policies in Rhode Island

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Executive Summary

The Rhode Island Department of Education (RIDE) requires all students, starting with the graduating class of 2028, to complete a four-credit math sequence, including one advanced mathematics course.¹ To stay on track for graduation, students need to pass Algebra 1 by 9th grade.

As this policy is implemented, some local educational agencies (LEAs) across the state are adjusting their math enrollment policies to ensure timely Algebra 1 success for all students. Success in Algebra 1 directly relates to success in advanced math coursework in high school and enrollment in higher education.² However, nationally, Algebra 1 is one of the most challenging courses for 9th grade students to pass.³ Many districts and states are beginning to shift Algebra 1 to 8th grade. This gives students more time to pass and enables more advanced math course-taking. Indeed, early 8th-grade Algebra 1 enrollment is linked to higher advanced math achievement, which increases the likelihood of four-year college enrollment and better long-term socioeconomic outcomes.⁴

We examine 8th grade Algebra 1 enrollment trends in Rhode Island. We draw on data from districts participating in Annenberg's Professional Learning Network, which brings together district leaders to support instructional improvement efforts in math education across Rhode Island. Through our partnership with the Rhode Island School Superintendents Association (RISSA), we also leverage responses from the 2025–2026 Rhode Island District Leader Survey. This year's survey asks LEAs to describe their current enrollment processes, changes they are making as a result of the new policy, and barriers to reaching district-wide math goals as the first cohort of high school students are exposed to the more rigorous math graduation requirements. The survey, a joint venture between the Rhode Island School Superintendents Association and the Annenberg Institute, captured 43 responses, 30 from traditional public school districts and 13 from charter LEAs. The LEAs that responded to this survey represent over 90% of all traditional and charter public school enrollments in the state.

Three key takeaways:

Key Finding 01

Nearly all LEAs offer Algebra 1 to 8th grade students. However, many students who demonstrate academic readiness for the course do not enroll.

Key Finding 02

Some LEAs are shifting their enrollment policies in ways that may increase the number of students enrolled in Algebra 1 courses in grades 8 and 9.

Key Finding 03

LEAs report that finding and retaining effective staff, insufficient preparation of students in earlier grades, and insufficient support for struggling students are key barriers to preparing students for and supporting students throughout advanced math courses.

01

Nearly all LEAs offer Algebra 1 to 8th grade students. However, many students who demonstrate academic readiness for the course do not enroll.

Most LEAs that serve 8th grade offer early Algebra 1 to academically-ready students.

Out of the 41 surveyed LEAs that serve 8th grade students, all but five report they offer Algebra 1 to 8th graders. The students who enroll in early Algebra 1 are those who LEAs say have demonstrated academic readiness, either because they have successfully completed accelerated coursework prior to 8th grade or they have demonstrated readiness through other indicators, like class grades or standardized tests. However, not all 8th grade students can access early Algebra 1, even when their LEA offers it and they demonstrate academic readiness.

Some LEAs struggle with getting all academically-ready students and some borderline-ready students access to early Algebra 1, leading to challenges with timely success.

Evidence from Annenberg's Professional Learning Network indicates that there are still some students who are ready for the course but are not enrolled. Figure 1 shows the distribution of fall benchmark assessment scores for students enrolled in 8th-grade Algebra 1, represented by the solid blue line, and other 8th grade students, represented by the dashed red line, in network districts. The vertical lines show the median score for each group. As expected, students in 8th grade Algebra 1 have substantially higher scores at baseline. However, among 8th grade students who are not enrolled in Algebra 1, 8% score higher than half of their grade-level peers who are enrolled in Algebra 1, suggesting they are academically-ready. Borderline-ready students narrowly miss proficiency benchmarks and may be ready for Algebra 1 in 8th grade with additional support. Nearly a quarter of non-enrolled students scored higher than a quarter of their peers in Algebra 1, and nearly all of these students are above or approaching grade-level proficiency benchmarks, suggesting they may be borderline-ready. Additionally, multilingual learners (MLLs) are less likely than their similarly-scoring peers to be enrolled in 8th grade Algebra 1.

Districts partially rely on subjective indicators, like teacher and parent recommendations, to make placement decisions.

Nearly every district uses objective readiness indicators, like Rhode Island Comprehensive Assessment System (RICAS) scores or curriculum-based benchmark assessments, and most supplement those decisions with subjective information. Nearly two-thirds of surveyed LEAs utilize teacher recommendations when making placement decisions, and one-quarter of LEAs incorporate parent requests. These findings suggest that LEAs make enrollment decisions based on a combination of assessments and recommendations, but families can ultimately decide whether students opt-in or out of early Algebra 1. Some district leaders discussed this process explicitly, explaining:

"Students are enrolled in Algebra 1 prior to 9th grade if they have been enrolled in the accelerated 7 math course ... Students who show promise may be identified by staff, but will also need the support of parents if they are coming out of a traditional grade 7 course."

"A recommendation for placement is made at the end of 7th grade based on a few factors ... however it is ultimately up to each student and their family to decide."

Nearly one in ten 8th grade students who are not enrolled in Algebra 1 score better than half their grade-level peers who are enrolled in Algebra 1.

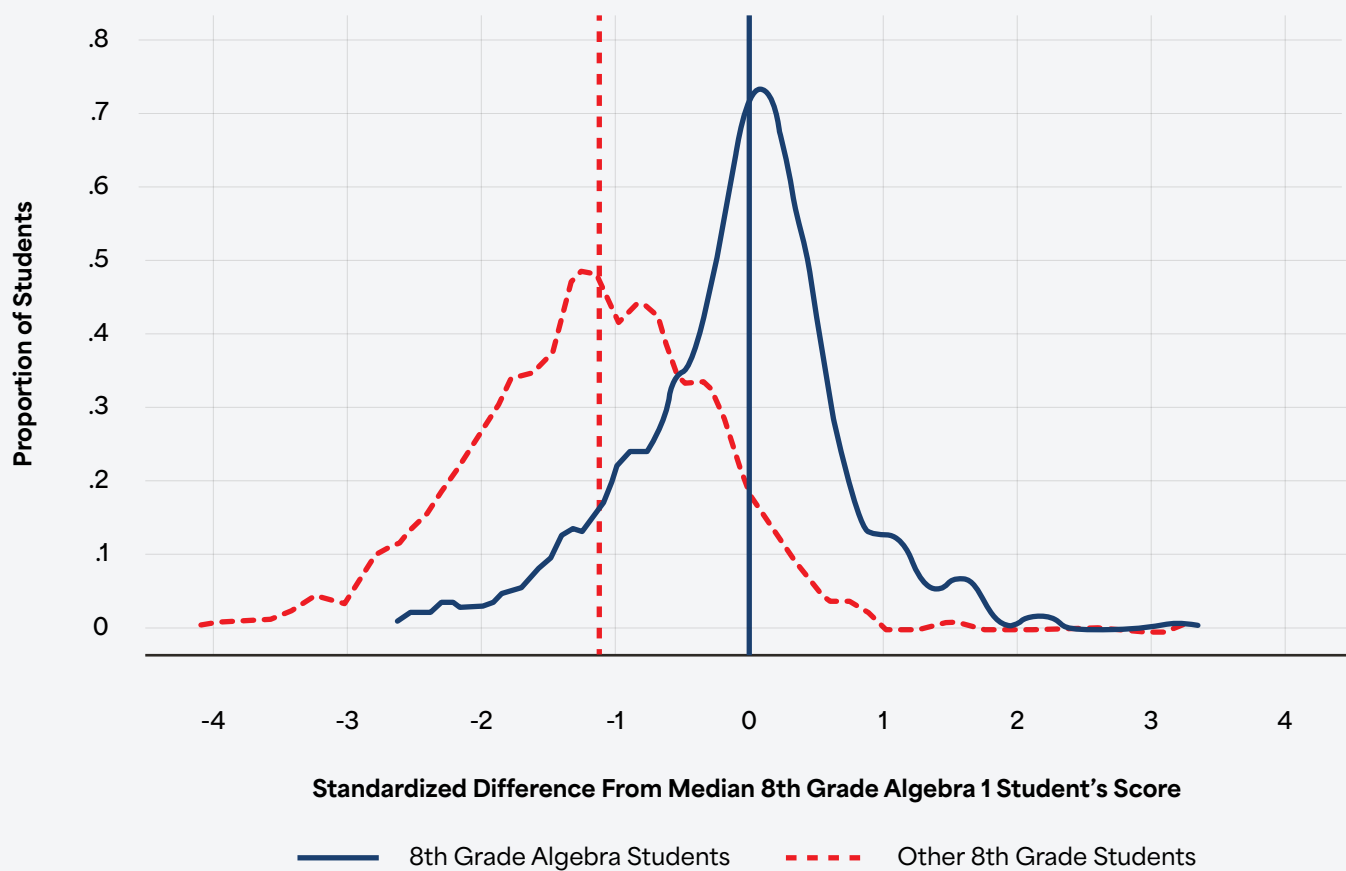


Figure 1. Distribution of standardized fall benchmark test scores for 8th grade students who are enrolled in Algebra 1 and 8th grade students who are not enrolled in Algebra 1.

02

Some LEAs are shifting their enrollment policies in ways that may increase the number of students enrolled in Algebra 1 courses in grades 8 and 9.

Nearly a quarter of surveyed LEAs report that they have changed their Algebra 1 enrollment policies in response to the new math graduation requirements.

Of those who have changed their policies, many report they did so to enroll students into Algebra 1 in 9th grade, making the new state requirement the default pathway, or to increase enrollment in 8th grade Algebra 1, an accelerated course. Some district leaders shared:

“We have added Algebra 1 to our middle school math offerings with the goal of increasing the number of 8th graders who take Algebra 1.”

“All 9th graders who have not successfully completed/taken Algebra 1 in middle school now take Algebra 1 in Grade 9 to ensure consistency with graduation requirements that went into effect beginning with the class of 2028.”

Automatic enrollment policies can offer more equitable opportunities for underrepresented, academically-ready students, but RI LEAs remain concerned about timely success for not-academically-ready students.

Studies at middle and high school levels have shown that automatic enrollment is linked to more students successfully completing advanced coursework, which is especially important for students from historically underserved groups who are less likely to be enrolled in advanced coursework even when they are academically-ready.⁵ However, as the number of students who are enrolled in Algebra 1 increases, RI LEAs continue to be concerned over what the changes in enrollment policies mean for students who are not academically ready for Algebra 1 by 9th grade.

LEAs report that finding and retaining effective staff, insufficient preparation of students in earlier grades, and insufficient support for struggling students are key barriers to preparing students for and supporting students throughout advanced math courses.

LEAs most frequently identified finding and retaining effective math teachers to prepare students for future coursework as barriers to achieving their district’s math goals.

In fact, out of the 35 LEAs that serve high school students, three-quarters responded that insufficient preparation of students for high-school level math courses was a barrier. This finding suggests districts are having challenges providing Tier 1 instruction in earlier grades that prepares students for more advanced math coursework. District leaders also described other potential obstacles to strong Tier 1 instruction, including implementation of high-quality curriculum materials (HQCM):

“Additional barriers to accomplishing the district’s math goals include challenges with implementing high-quality curriculum materials with fidelity across all classrooms.”

“We do struggle with finding effective math teachers.”

“Algebra 1 Labs are not taught by a highly qualified teacher.”

Ineffective interventions for students struggling in math inhibits student success in grade-level courses and lowers participation in advanced coursework.

Without effective Tier 1 instruction, some students are unprepared to meet key standards needed to be successful in math. When students are struggling, LEAs rely on a few different types of interventions such as online platforms, support staff, summer math programs, and tutoring. Across all school levels, LEAs identified online learning platforms as the most common instructional support. Nearly three-quarters of LEAs report that they employ math interventionists, but on average districts employ one interventionist for every 400 elementary school students, 600 middle school students, and nearly 1,000 high school students. Limited availability of interventionists means that students rely on more readily-available resources such as learning platforms. Intervention resources also become more scarce as students get older. This evidence suggests that districts rarely have the resources needed to allocate towards interventions, leaving struggling students without proper support. A few district leaders responded:

“With a lack of true intervention and support, teachers and students struggle with the rigor and ability to differentiate HQIM. As a result, the intended targets of the course are rarely met, and students matriculate into the next course unprepared ... and have no support. As a result, instruction shifts away from grade-level-appropriate instruction to unregulated interventions for all.”

“Funding for resources and support is the primary barrier.”

“There is social promotion at the middle school level; therefore, students that are not prepared for high school math are still passed on. In addition, we do not have the funds to hire more teachers and therefore cannot offer support classes within the school day.”

Questions for Future Consideration

As Rhode Island LEAs continue to support their students' progress through Algebra I and into advanced math coursework, they should consider how to strengthen their approaches to course assignment, Tier 1 instruction, and intervention support with evidence-based practices.

01 What information should LEAs use to determine readiness for Algebra 1 so that students who are ready or borderline-ready are consistently enrolled?

Enrollment decisions for math classes should be based on multiple objective criteria.⁶ Many districts already use a holistic approach for identifying academic readiness using multiple test scores, such as benchmark assessments and RICAS. Two-thirds of LEAs also report that they also use teacher recommendations, and one-quarter of LEAs use parent and student requests to inform Algebra 1 placement decisions. Heavily weighing this subjective data when making placement decisions might push academically-ready or borderline-ready students into classes that are below their skill level, especially if that information takes precedence over data that otherwise demonstrates students' academic readiness. Ensuring that all students are reevaluated holistically each year using objective criteria allows each individual student the best opportunity to be successful in math.

02 How can LEAs dedicate efforts to improving Tier 1 instruction as a means to ensure academic readiness for advanced math and minimize reliance on intervention systems?

Having strong Tier 1 instruction means that students are consistently receiving rigorous math instruction in the classroom that can prepare them for future advanced math coursework. However, evidence from the survey suggests that not all students are receiving strong Tier 1 instruction, meaning that students come into accelerated math coursework unprepared. LEAs should design strategies for closing gaps in prerequisite skills and knowledge within the core classroom to ensure students are on track and prepared for the next course. One pathway to improve instruction is by designing effective professional learning strategies. These professional learning structures should be focused on developing strong instructional practices that engage students in active conceptual learning and utilize formative assessments to monitor student progress. Effective educators should also have high expectations for all students, regardless of background characteristics and prior performance. When Tier 2 supports are utilized, they should be aligned with Tier 1 instruction and HQCM in order to advance the same set of grade-level standards to more effectively support students.⁷

03 What interventions can LEAs utilize to best support borderline-ready students in early Algebra 1?

As districts shift their math enrollment policies, more students will be enrolled in Algebra 1 earlier. It is critical that borderline-ready students who are enrolled in Algebra 1 during 8th grade have the necessary supports available in order to be successful. There is moderately-strong evidence of success utilizing intervention periods or math labs to accelerate student learning, and for the majority of RI LEAs, most intervention support takes place during these intervention blocks. Additionally, online learning platforms were identified by LEAs as the most common math instructional support available for students at all grade levels. But nearly two-thirds of LEAs responded that existing supports are insufficient to help struggling students. LEAs should consider alternative methods of intervention, such as double-dose Algebra and small-group tutoring during school, which evidence suggests are effective ways to provide additional support for borderline-ready students.⁸

Endnotes

- 1 Approved advanced math credits include Statistics, Precalculus, Calculus, Data Science, and more courses. Complete list can be found in RIDE Math Graduation Requirement Guidance: [https://ride.ri.gov/sites/g/files/xkg-bur806/files/2024-07/Math Graduation Requirement Guidance V2 July 2024.pdf](https://ride.ri.gov/sites/g/files/xkg-bur806/files/2024-07/Math%20Graduation%20Requirement%20Guidance%20V2%20July%202024.pdf)
- 2 Lee, K., Ng, S. F., & Bull, R. (2018). Learning and solving algebra word problems: The roles of relational skills, arithmetic, and executive functioning. *Developmental psychology*, 54(9), 1758.; Siegler, R. S., Duncan, G. J., Davis-Kean, P. E., Duckworth, K., Claessens, A., Engel, M., Susperreguy, M. I., & Chen, M. (2012). Early predictors of high school mathematics achievement. *Psychological Science*, 23(7), 691–697.
- 3 Allensworth, E. M., & Easton, J. Q. (2007). What Matters for Staying On-Track and Graduating in Chicago Public High Schools: A Close Look at Course Grades, Failures, and Attendance in the Freshman Year. Research Report. *Consortium on Chicago School Research*.
- 4 Huffaker, Elizabeth (2025). Evidence-Based Practices for Algebra I Access, Placement, and Success. EdResearch for Action. https://edresearchforaction.org/wp-content/uploads/FINAL-Algebra-1-EdResearch_designed.pdf
- 5 Plucker, J. A., Berg, B., & Kuwayama, H. (2024). Automatic Enrollment in Advanced Courses: A Bipartisan Approach to Excellence and Equity in K–12 Schools.
- 6 Huffaker, Elizabeth (2025). Evidence-Based Practices for Algebra I Access, Placement, and Success. EdResearch for Action. https://edresearchforaction.org/wp-content/uploads/FINAL-Algebra-1-EdResearch_designed.pdf
- 7 Unlocking Algebra: What the Data Tells Us About Helping Students Catch Up (2025). TNTP. https://tntp.org/publication/unlocking-algebra/&rt_nonce=5b030e1632
- 8 Algebra I Placement and Access: A Facilitation Guide for District Leadership Teams. EdResearch for Action. https://docs.google.com/presentation/d/1CFyGpBEIkliZcokjyqqhnRs_hBR0QRCZtsXESTIqgHI/edit?slide=id.g3ba69641bb1_0_170#slide=id.g3ba69641bb1_0_170



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