

Impact of CityTutor DC High-Dosage Math Tutoring on Student Academic Growth

This study examined the effects of a large-scale, high dosage math tutoring intervention across 49 schools in the District of Columbia on student academic performance in 2023-24 using a matched comparison design. Results demonstrated positive effects, with participating students showing academic gains of more than 0.29 standard deviations, or approximately equivalent to 2 months of additional learning, compared to their matched peers. These findings add to the growing body of evidence suggesting that well-designed, intensive tutoring programs can be a powerful tool for accelerating student learning and addressing academic performance gaps.

Research Design

The study employed a matched comparison design to assess the impact of the high dosage tutoring program by creating statistically similar groups to better assess differences in outcomes that could be attributed to the tutoring intervention. Students who received more than 900 minutes of tutoring in math or reading (treatment group) were carefully matched with similar students who did not receive high dosage tutoring (comparison group) based on:

- Student demographics, including socioeconomic, disability, and English learner status
- Fall baseline test score on NWEA MAP or i-Ready assessment
- Prior year attendance rate
- Enrolled grade level

The comparison measure of interest was the percentage of expected fall-to-spring growth in math met by students, based on each assessment's published national pre-pandemic growth norms.

Study Sample

The study included 1,144 students in grades K-8 with fall baseline math test scores below the national average who received more than 900 minutes of tutoring. Students in the study:

- Attended 49 schools in a diverse urban area
- 68% economically disadvantaged
- 11% English language learners
- 15% students with disabilities
- 62% fall baseline score in the bottom quartile

Outcomes Summary

Students who received more than 900 minutes of tutoring, designed with CityTutor DC to be at least 90 minutes per week meeting multiple times for at least ten weeks, during the 2023-24 school year demonstrated fall-to-spring growth that exceeded their expected growth by an additional 44%. When compared to matched students with similar demographics, baseline test score, and attendance history, students receiving high dosage demonstrated math growth rates that were 0.29 standard deviations higher than the matched comparison group's growth. The effect sizes were larger for economically disadvantaged students (+0.35 SD) and those with fall baseline math performance that ranked in the bottom quartile nationally (+0.38 SD).

These findings suggest that CityTutor DC's implementation of evidence-based tutoring in a variety of contexts can be an effective strategy for accelerating academic growth, particularly for elementary and middle school students with below average math achievement. Future research should explore the long-term sustainability of these gains and implementation at an even larger scale serving more students.