il **imagine math**®

Clifton Public School Students Using Imagine Math® Show Growth on NJSLA

Overview

Clifton Public Schools (Clifton) is a suburban school district in New Jersey that serves approximately 11,000 students in Grades PK through 12. During the 2023–2024 school year, Clifton implemented Imagine Math to promote mathematics achievement for Grades K–8 students. Over the course of the year, 6,736 students used the program for an average of 20.3 hours and passed an average of 33.2 lessons. Imagine Learning partnered with Clifton to examine how usage of Imagine Math impacted students' mathematics achievement. To achieve this, Imagine Learning analyzed the correlation between New Jersey Student Learning Assessments (NJSLA) mathematics assessment outcomes and student use of the Imagine Math program (lessons passed) to determine how program use was associated with mathematics performance. Additionally, Imagine Learning utilized propensity score matching to compare how different levels of usage contributed to students' mathematics achievement as measured by the NJSLA.

Clifton Public Schools, NJ

| Demographics	n = 6,736
Special Education	21%
ELL	14%
Title I Math	29%
504 Plan	2%
Female	49%
American Indian/Alaskan Native	<1%
Asian	6%
Black	3%
Hispanic	48%
2+ Races	8%
Native Hawaiian/Pacific Islander	<1%
Unknown Race	8%
White	26%

Results

The results of this evaluation showed a positive association between Imagine Math usage and performance on the 2024 NJSLA math assessments. As students passed more lessons in Imagine Math, they achieved statistically greater scores on the 2024 NJSLA math assessment ($p < .01$, see Figure 1). This conclusion held for students of all races in addition to the overall population (Figure 2). Further, after matching students on baseline scores, race, ELL status, and other demographic variables, students who passed at least 30 lessons in Imagine Math statistically outperformed their peers by about 10 points on the NJSLA math assessment ($p < .001$, see Figure 3).

Figure 1. Association between Imagine Math lessons passed and 2024 NJSLA Math score

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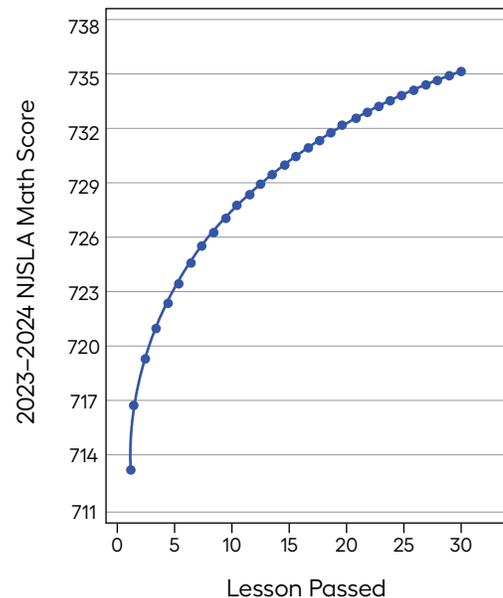
Figure 2. Association between Imagine Math lessons passed and 2024 NJSLA Math score by race

Race

- Asian (p<.01)
- Black (p=.01)
- Hispanic (p<.01)
- Multi (p<.01)
- White (p<.01)
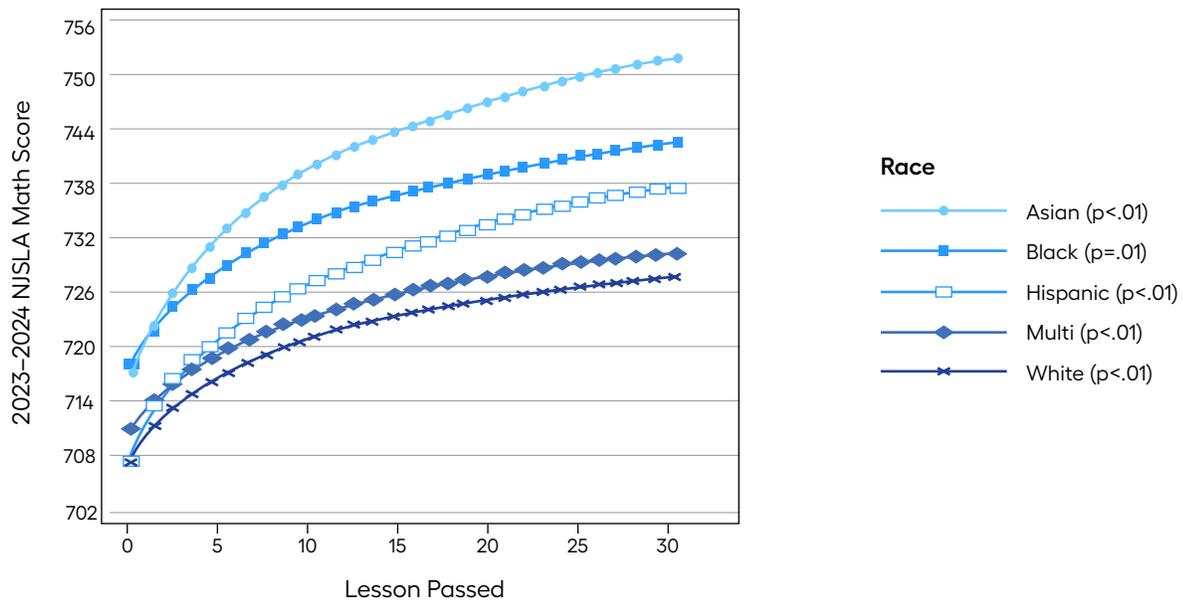
Figure 3. Average 2024 NJSLA math scaled score by grade by Imagine Math lessons passed

IM Usage

- <30 Imagine Lesson Passed
- ≤30 Imagine Lesson Passed
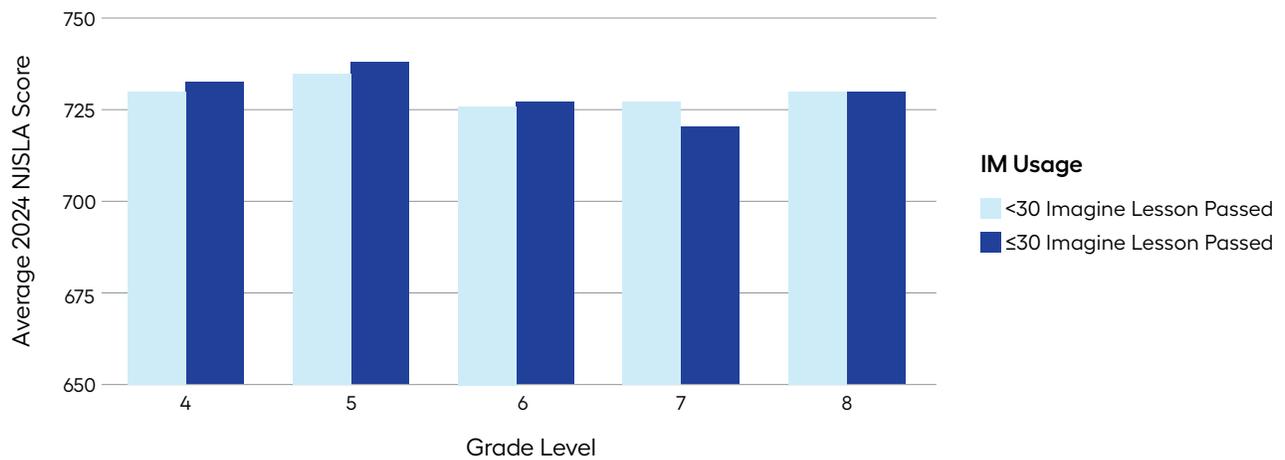
Students in Clifton have used Imagine Math for several years. As such, Imagine Learning considered usage data from the last three school years and found that students who used Imagine Math with fidelity (defined as passing at least 30 lessons in a school year) for more years had higher Spring 2024 test scores after controlling for baseline results and other demographic factors using a multi-variate regression (Figure 4).

Figure 4. Average 2024 NJSLA math scaled score by years of Imagine Math fidelity usage

Grade 3-8
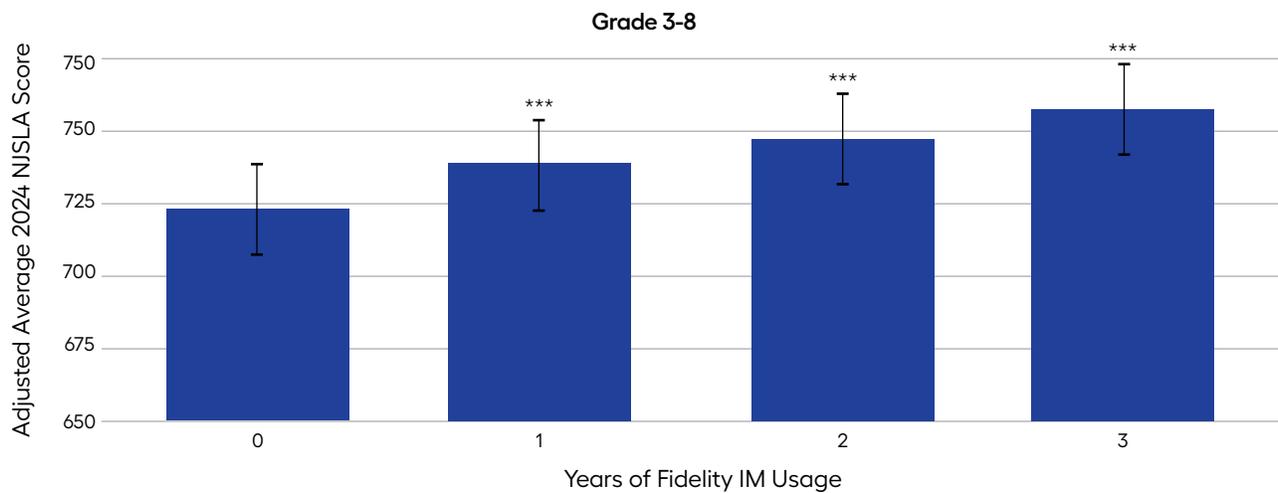
Note: *: p<.05, **: p<.01; ***: p<.001: indicates whether the average 2024 NJSLA score for a given group differs significantly from the 0-year group.

Conclusion

Research indicates that students who spend more time in math learning programs show the greatest growth (Cheung & Slavin, 2013; Singh et al., 2002), and those who follow a program's recommended usage achieve more progress than those who do not (Means et al., 2009). This study found that Clifton students who used Imagine Math as recommended performed better in math by the end of the school year. Additionally, students who followed the program's recommendations over multiple years experienced cumulative benefits. These results suggest that Imagine Math is an effective tool for enhancing math achievement.

References

Cheung, A. C., & Slavin, R. E. (2013). The effectiveness of educational technology applications for enhancing mathematics achievement in K-12 classrooms: A meta-analysis. *Educational Research Review, 9*, 88-113.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. *Teachers College Record, 115(3)*, 1-47.

Singh, K., Granville, M., & Dika, S. (2002). Mathematics and science achievement: Effects of motivation, interest, and academic engagement. *The Journal of Educational Research, 95*(6), 323-332.