

Increased Imagine Math Program Usage Positively Associated with Better STAAR Performance for Students in a Texas School District

Background

Imagine Math is a rigorous, standards-aligned math program that personalizes learning for each student. Students are immersed in a language-rich curriculum that uses data to scaffold concepts for each learner, ultimately leading to deep understanding of math concepts and college- and career-readiness. Because the system is adaptive, students learn in their zone of proximal development with the right degree of challenge.

During the 2018-2019 school year, approximately 9,000 students in grades 3 through 8 in a northeastern Texas school district utilized Imagine Math as a supplemental mathematics education tool. The primary objective of this study was to determine the impact of the program on student mathematics ability. Ordinary least squares regression (controlling for student sex, race/ethnicity, ESL status, special education status, and beginning-of-year Imagine Math benchmark score) was used to determine the association between end-of-year STAAR Mathematics scale scores and the number of lessons that students passed in the Imagine Math program. Students who used Imagine Math logged an average of approximately 18 hours in the program across the school year.

Results

Figure 1 visualizes the association between students' 2019 STAAR Mathematics scale scores and the number of Imagine Math lessons that they passed during the 2018-2019 school year. The results reveal a strong, positive, and statistically significant association between Imagine Math program usage and students' performance on the STAAR assessment. Specifically, for every additional lesson a student passed on the Imagine Math program, they achieved an increased STAAR Mathematics scale score of 1.72 points. Further, through the use of logistic regression, it was found that students who used the Imagine Math program with fidelity (approximately 30 hours) were nearly 5 times more likely to achieve STAAR Mathematics proficiency than students who did not use the Imagine Math program with fidelity.

Figure 1. Association between STAAR Mathematics scaled scores and the number of Imagine Math lessons passed.

