

Students in California Schools Using *enVision Mathematics K-5* Outperform Matched Controls on the Smarter Balanced Summative Assessment

Research Brief

Key Finding

The percentage of third to fifth grade students proficient in math was significantly greater in the *enVision Mathematics K-5* schools than in the matched control schools.

Introduction

The *enVision Mathematics* program provides comprehensive, standards-based content to support all students in developing deep conceptual understanding, procedural skills, and fluency, with relevant application opportunities to become college and career ready. For use in print, blended, and 1:1 classrooms, *enVision Mathematics* integrates a variety of digital tools and resources so students have multiple ways to learn and engage with the math. The program offers a balanced instructional model based on scientific research and emphasizes problem-based learning with visual learning and a comprehensive array of formative and summative assessments so students can demonstrate their understanding and progress in a variety of ways. Moreover, the series builds on students' prior knowledge from grade-to-grade and challenges them to expand their learning to algebra and beyond.

Do students in California (CA) schools using *enVision Mathematics K-5* perform better on tests of mathematics achievement compared to those in schools using other mathematics programs? This research question was tested with a Quasi-Experimental Design (QED) study that compared recent CA state assessment scores of schools using *enVision Mathematics K-5* to closely matched control schools that used other core mathematics programs.

Methods

This QED was designed to address whether students' math achievement outcomes differed between users and nonusers of *enVision Mathematics K-5*, after accounting for any baseline differences between the two groups. Math achievement was measured with CA state assessment data for grades 3–5. In this study, schools using *enVision Mathematics* during the study period were matched to schools not using the program using propensity score matching. The propensity score matching was conducted after the outcome data was collected, making the study retrospective.

Procedure

Data was collected from public sources. First, school level math test performance data for third through fifth grade 2023/2024 and 2024/2025 were collected from the California Department of Education's website for all schools in CA. School level 2025 demographic data were collected from the National Center of Education Statistics' website. These sources were merged using school-level identifiers.

Next, a comparison and treatment group were identified. California schools that used *enVision Mathematics* at third through fifth grade during the 2024/2025 school year were identified as treatment schools. Then, *enVision Mathematics* schools were matched to schools that did not use *enVision Mathematics* based on Spring 2024 math test performance and percentage of Hispanic students using propensity scoring methods and nearest neighbor algorithms. Matching was conducted separately for each grade-level. As stated previously, the matching was performed after the outcome data was collected (in February 2026), making the study retrospective.

Sample

The sample consisted of 2,087 *enVision Mathematics K-5* and 2,087 matched control school-by-grade-level observations. The school-by-grade-level observations were combined to a full sample that captures the entire population of *enVision Mathematics K-5* schools in California (708 schools) along with 1,795 matched control schools. As a result of the matching, baseline equivalence was achieved for Spring 2024 math test performance (Hedge's $g = 0.002$; SMD = 0.003; $t(4172) = -0.10$, $p = .92$) and percentage of Hispanic students (Hedge's $g = -0.002$; SMD = -0.003; $t(4172) = 0.10$, $p = .92$). Table 1 shows the characteristics of the matched sample.

Table 1. Characteristics of the analytic sample.

	<i>enVision Mathematics</i>	Control	Total
N	2,087	2,087	4,174
Number of Schools	708	1,795	2,503
Number of Students	155,572	150,115	305,687
Percent Females	48.7	48.7	48.7
Percent Males	51.3	51.3	51.3
Percent African American	6.3	4.9	5.6
Percent Hispanic	50.5	50.6	50.6
Percent White	18.3	23.7	21.0
Percent Asian	16.9	12.2	14.5
Percent Two or More Races	7.1	7.7	7.4
Percent Other Race	0.9	0.9	0.9
Percent FRPL	65.3	59.3	62.3

Measures

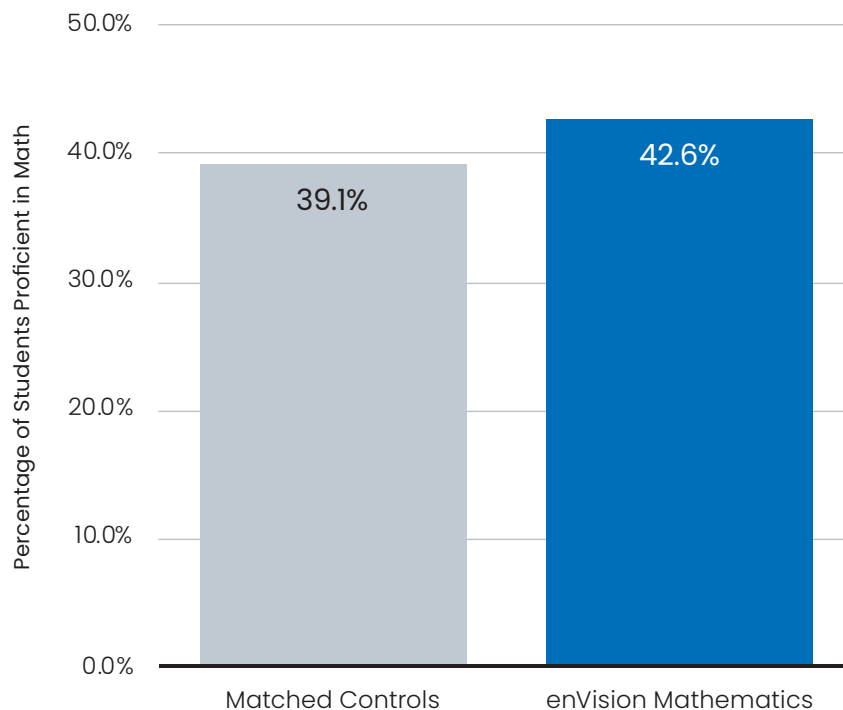
California students' mathematical knowledge is measured with the mathematics section of the Smarter Balanced Summative Assessment system and is based on the Common Core State Standards for Mathematics. It is administered at the end of the school year. Students receive an overall score and a corresponding achievement level that ranges from 1 to 4. Levels 3 and 4 are considered proficient or above.

Results

The relationship between *enVision Mathematics K-5* use and students' math achievement was tested by modeling the treatment effect using Hierarchical Linear Modeling (HLM) to account for the nested structure of the data (grades within schools and schools within districts). Relevant demographic characteristics including the percentages of economically disadvantaged, the percentage of African-American students, the percentage of white students, and the percentage of Asian students in schools were controlled for.

The results of the analysis showed that the percentage of students proficient in math was significantly greater in the *enVision Mathematics K-5* schools than in the control schools ($b = 3.52$, $t(401.03) = 2.90$, $p < .05$, $\beta = .08$). (b is the unstandardized coefficient and β is the standardized coefficient.) Figure 1 shows the model-predicted mean percentage of students proficient in math for the *enVision Mathematics K-5* schools is 3.5 percentage points greater than the control schools.

Figure 1. Predicted Math Proficiency for *enVision Mathematics K-5* and Matched Controls



Conclusion

The efficacy of educational programs should be tested in real-world settings to help inform practical decision making in educational contexts. The current study used a QED design to test the effectiveness of *enVision Mathematics K-5* in CA schools as compared to other programs in use in schools in CA. In addition to rigorous matching techniques, the analytic approach employed Hierarchical Linear Modeling (HLM), which allowed us to account for the nested structure of the data and control for important demographic variables, ensuring that the observed effects are most-likely attributable to the *enVision Mathematics K-5* program rather than extraneous factors. The findings of the current study provide robust evidence supporting the efficacy of *enVision Mathematics K-5* in CA elementary schools. The matching methodology, matching results, sample size, analytic approach, and findings of this study meet the ESSA requirements for Level 2 evidence (Moderate Evidence).

It is important to note that there are several limitations to this study. First, all schools generally teach similar concepts aligned to state curricula. In addition, this study did not consider variability in the implementation and fidelity of the program. These factors make it harder to describe the true effect of an educational program. Despite these limitations, this study provides valuable evidence that *enVision Mathematics K-5* schools' proficiency scores were higher than control schools'. This evidence underscores the effectiveness of the *enVision Mathematics K-5* program.

The results of the current study show that *enVision Mathematics K-5* schools had predicted 3.5 percent more proficient students than control schools. In summary, the program's positive impact on math proficiency suggests that *enVision Mathematics K-5* is a valuable tool for helping students learn math skills in CA schools.

References

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