i-Ready Personalized Instruction and State Assessment Performance for Economically Disadvantaged Students

State assessment performance is a key metric in accountability systems. As such, state and district leaders often require evidence of how instructional products may support this performance. Instructional products like the *i-Ready Diagnostic* and *i-Ready Personalized Instruction* (i.e., *i-Ready* PI), are state-agnostic, however, and designed to serve broader populations. To better identify how these tools aid state assessment performance, Curriculum Associates (CA) conducts state-specific research. This existing research quantifies the association between *i-Ready* PI use and state summative exams. Studies are designed to evaluate whether greater student engagement with *i-Ready* PI is associated with higher achievement on state exams.

Prior work has shown students using *i-Ready* PI with fidelity tend to score higher on state summative exams in reading and mathematics than their peers using less consistently. This association held across states, grades, and subjects, but has not been explored across subpopulations. Given often limited samples within a state, pooling data across states for key subgroups allows for a larger sample through which to explore this relation. To understand the association between use of *i-Ready* PI and performance on state assessments across the nation, CA conducted a pooled analysis across 25 states (see full report). This analysis was then repeated to focus on economically disadvantaged students.

Key Findings

- In all grades and subjects, economically disadvantaged students using *i-Ready* PI with fidelity **scored higher on state tests** compared to peers using less consistently.
- These score differences are considered **medium to large**.
- On a common metric, fidelity users score anywhere from **five to 14 points higher**.

Methods

Scan to Read the Technical Report

The current research utilizes data from state assessments from the 2021–2022, 2022–2023, and 2023–2024 academic years with *i-Ready* PI usage data from the corresponding year. *i-Ready* PI usage data examined how students engaged with the product to determine fidelity users. To use with fidelity, students had to: 1) complete *i-Ready* PI lessons with at least a 70 percent pass rate, 2) use *i-Ready* PI for 18 or more weeks across the academic year, and 3) use *i-Ready* PI for at least 30 minutes per week. Students who met all criteria were considered fidelity users, whereas all other students were non-fidelity users. To make state assessment scores comparable across states, CA leveraged equipercentile linking[1]. This technique converts scores on one test to the

[1]Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking.* Springer.

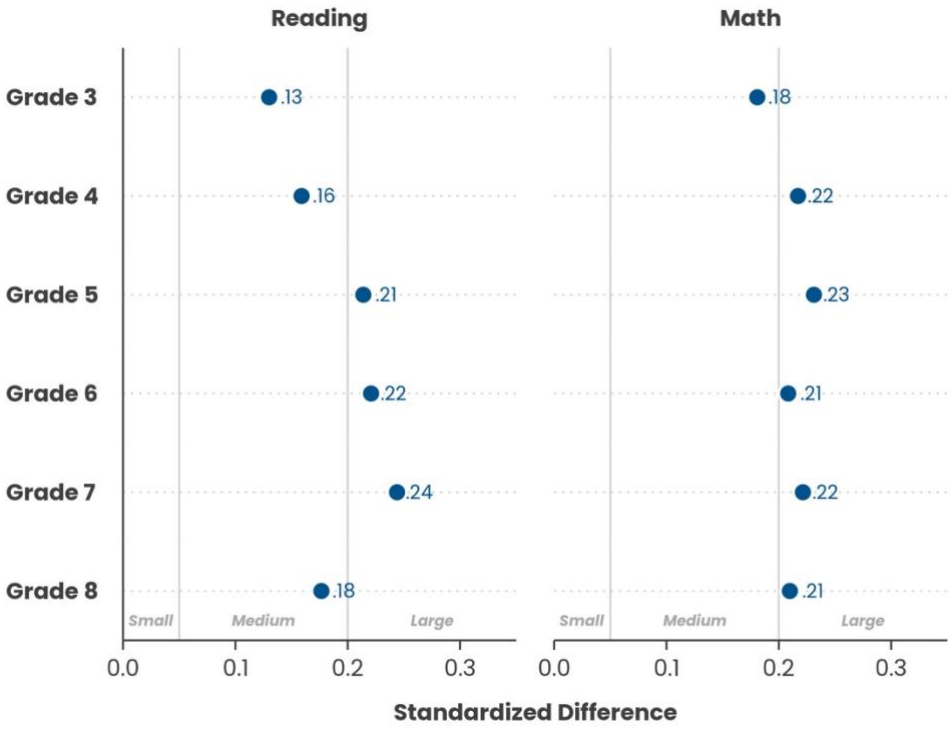
associated score on another test. After pooling and converting state data to a common metric, we utilized linear modeling to estimate state assessment performance differences between non-fidelity and fidelity students, accounting for fall performance and school context. The final sample included 354,937 economically disadvantaged students in reading, and 433,472 in mathematics.

Results

Standardized Differences

Aggregating data with meta-analytic approaches provides a comprehensive view of the association between *i-Ready* PI and state assessment performance, especially for subpopulations that are often too small to explore in state-level samples. Results show medium to large score differences between non-fidelity and fidelity students after accounting for prior achievement and school context (see Figure 1). For example, economically disadvantaged students in Grade 5 Reading who used with fidelity, scored .21 standard deviations higher than economically disadvantaged peers in the same school, with similar baseline performance, who used less consistently. These differences were consistent across grades and subjects.

Figure 1. Standardized Score Differences between Fidelity and Non-Fidelity *i-Ready* PI Use



Score Differences

To contextualize these standardized differences, we visualized score differences (based on scores from a common metric) for non-fidelity and fidelity economically disadvantaged students to identify the difference between an average student in the two groups. These results show that across states explored, on average, economically disadvantaged students using *i-Ready* PI with fidelity score anywhere from five to 14 points higher than peers using less consistently, after accounting for fall performance and school context (see Figures 2 and 3).

Figure 2. Translated Reading State Scores by *i-Ready* PI Use for Economically Disadvantaged Students

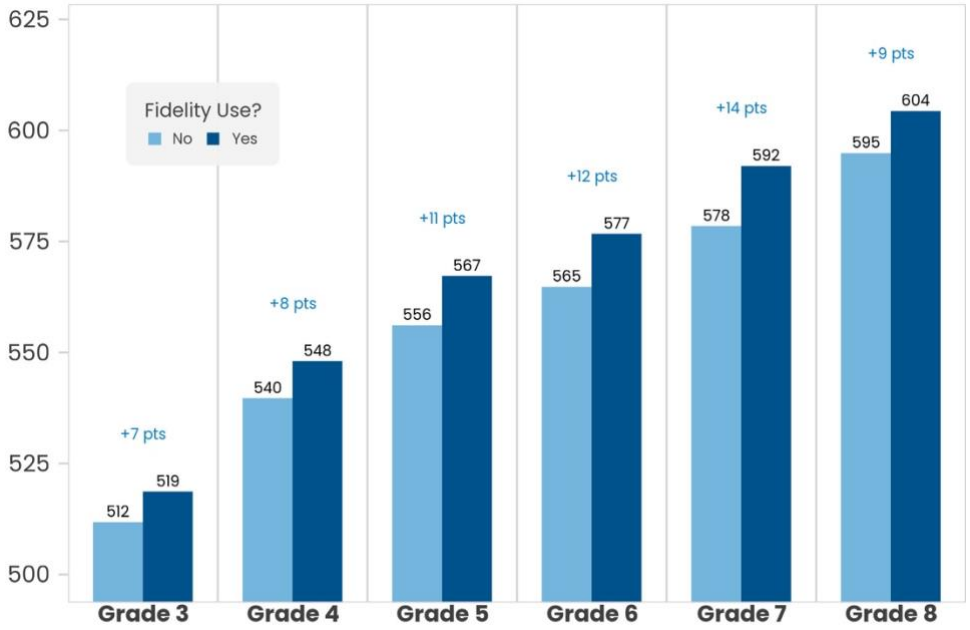
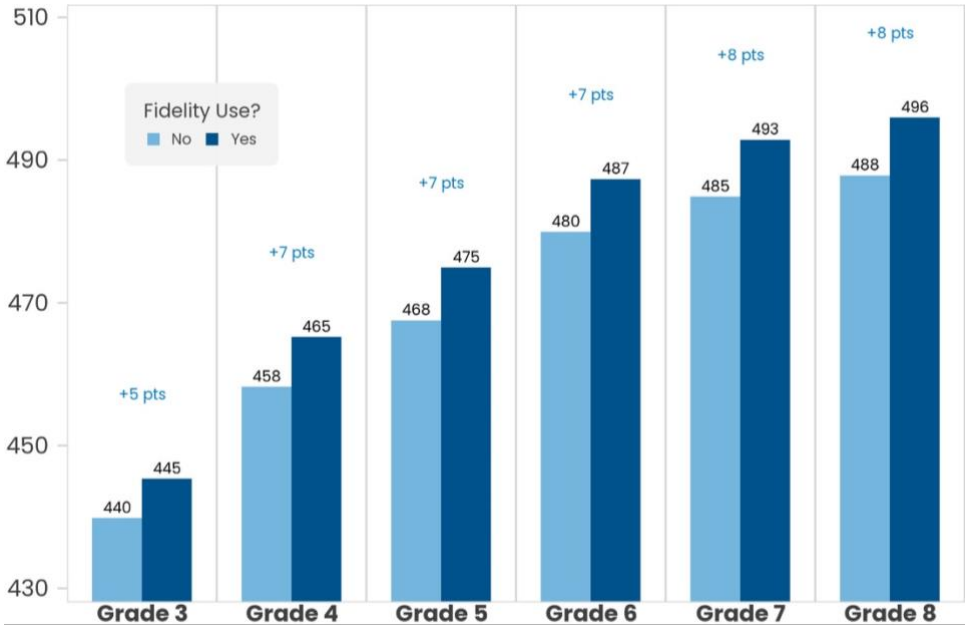


Figure 3. Translated Mathematics State Scores by *i-Ready* PI Use for Economically Disadvantaged Students



Conclusion

Prior research has shown the positive association between fidelity use of *i-Ready* PI and state assessment performance. The current study expands on this work to demonstrate this association holds for economically disadvantaged students. As educators are tasked with supporting a wider array of students, it's important the instructional resources implemented can equally benefit the diverse body of students served. These results indicate use of *i-Ready* PI with fidelity is associated with improved state assessment performance for economically disadvantaged students.