Adopting Computer Assisted Learning at Scale: Training and Supporting Teachers and Families to Use CAL Technologies

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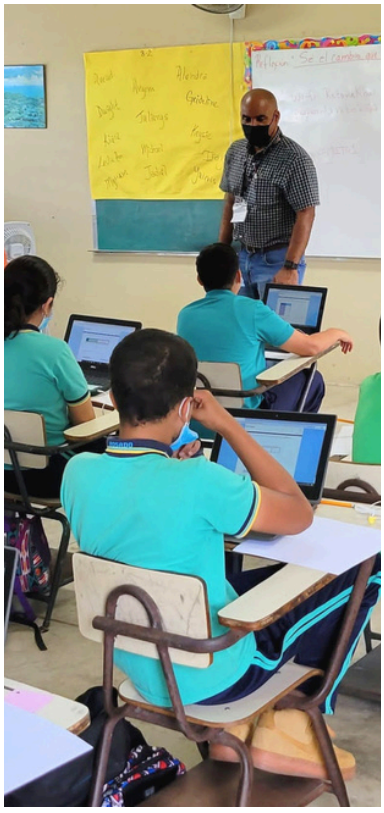

COMPUTER-ASSISTED LEARNING CAN IMPROVE OUTCOMES AT SCALE, BUT ONLY WHEN EDUCATION SYSTEMS ENSURE SUSTAINED, STRUCTURED USE

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LINK TO PAPER

Summary

This study examines an at-scale coaching program supporting math teachers to integrate Khan Academy into instruction across Puerto Rico's population of 4th- to 8th-grade public schools over multiple years. The program generated a 6.7–7.9-fold increase in platform use, with additional parental communication further boosting engagement. Effects on math achievement are modest in the short run but persist when combined with parental engagement. Learning gains among regular platform users are consistent with prior small-scale efficacy trials. The findings highlight both the promise and limits of scaling computer assisted learning (CAL) in public systems: CAL can improve learning when paired with structured teacher support and behavioral reinforcement, but sustained engagement remains difficult to achieve at scale.

Objective

To examine whether teacher coaching at scale can improve the adoption of CAL technologies, and learning outcomes of students in Puerto Rico's public schools.

Methodology

A cluster-randomized design covering all 665 public primary and middle schools in Puerto Rico, including approximately 1,500 4th- to 8th-grade math teachers. Schools were phased into the ATEMA coaching program across cohorts, and a random subset also received a parent communication intervention with reminders and information on student platform use and progress. The study measured impacts using Khan Academy usage data, end-of-year standardized math test scores, and persistence one year later.

Results

- Teacher coaching increased Khan Academy engagement by 6.7-7.9x, but only 4-7% of students used the platform regularly throughout the academic year.
- Learning gains were modest overall, but active users saw meaningful improvement in math outcomes.
- Parental communication increased and sustained student participation, underscoring how impact depends on students' engagement with the CAL platform and strong support from both teachers and families.

~8x
increase in students' CAL platform engagement with teacher coaching

Up to
5.7x
increase in student engagement with parental communication