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Improving low-income preschoolers mathematics achievement with Math Shelf, a preschool tablet computer curriculum.

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Summary: Low-income preschoolers begin Kindergarten behind their middle and high-income peers in mathematics, and these achievement differences grow as they progress through school. Technology can provide cost effective and scalable solutions to improve young children's mathematics outcomes. The aim of this study was to test Math Shelf, a tablet computer curriculum designed to improve at risk preschoolers' mathematics performance. Two hundred and seventy-three children participated with intervention students playing Math Shelf on tablets for 15 weeks, while comparison students participated in their regular classroom mathematics curriculum. At the end of the intervention, there was a significant and sizable effect on the mathematics posttest for *Math Shelf* students (Cohen's $d = 1.09$, $p < .001$). *Math Shelf* students learned approximately one year more mathematics than control students. Our results suggest that teachers can significantly increase low-income preschoolers' mathematics knowledge in a relatively short amount of time by implementing evidenced-based tablet software.

Classification: U71 U51 D31 D41 C31 C61 C91

Keywords: preschool students; iPads; tablet computers; low-income children; intervention

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