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The effects of a digital formative assessment tool on mathematics achievement and student motivation: results of a randomized experiment.

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Summary: In this study a randomized experimental design was used to examine the effects of a digital formative assessment tool on mathematics achievement and motivation in grade three primary education ($n_{\text{schools}} = 79$, $n_{\text{students}} = 1808$). Experimental schools used a digital formative assessment tool whereas control schools used their regular teaching methods and materials. The tool provides student feedback, feedback to teachers, and adaptive assignments. Data included standardized achievement pre-posttest data, student motivation survey data, classroom observation data, and student log files. Multilevel analysis revealed positive effects on student achievement and motivation. Students' intensity of use measurements support the effects found on student achievement and motivation. Furthermore, achievement effects were higher for high-performing students.

Classification: D60 U50 C30 C20

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