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Mathematics teaching practices with technology that support conceptual understanding for Latino/a students.

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Summary: We analyze how three seventh grade mathematics teachers from a majority Latino/a, linguistically diverse region of Texas taught the same lesson on interpreting graphs of motion as part of the Scaling up SimCalc study [*J. Roschelle et al.*, “Integration of technology, curriculum and professional development for advancing middle school mathematics: three large-scale studies”, *Am. Educ. Res. J.* 47, No. 4, 833–878 (2010)]. The students of two of the teachers made strong learning gains as measured by a curriculum-aligned assessment, while the students of the third teacher were less successful. To investigate these different outcomes, we compare the teaching practices in each classroom, focusing on the teachers’ use of class time and instructional format, their use of mathematical discourse practices in whole-class discussions, and their responses to student contributions. We show that the more successful teachers allowed time for students to use the curriculum and software and discuss it with peers, that they used formal mathematical discourse along with less formal language, and that they responded to student errors using higher-level moves. We conclude by discussing implications for teachers and mathematics educators, with special attention to issues related to the mathematics education of Latinos/as.

Classification: C70 C60 B50 M50 D70

Keywords: educational technology; teaching methods; grade 7; educational practices; technology uses in education; achievement gains; curriculum based assessment; classroom techniques; intermode differences; instructional effectiveness; Hispanic American students; graphs; mathematical discourse
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