ZMATH 2016f.01376

Fyfe, Emily R.

Providing feedback on computer-based algebra homework in middle-school classrooms.

Comput. Hum. Behav. 63, 568-574 (2016).

Summary: Homework is transforming at a rapid rate with continuous advances in educational technology. Computer-based homework, in particular, is gaining popularity across a range of schools, with little empirical evidence on how to optimize student learning. The current aim was to test the effects of different types of feedback on computer-based homework. In the study, middle school students completed a computer-based pretest, homework assignment, and posttest containing challenging algebraic problems. On the homework assignment, students were assigned to different feedback conditions. In Experiment 1 ($N = 103$), students received no feedback or correct-answer feedback after each problem. In Experiment 2 ($N = 143$), students received (1) no feedback, (2) correct-answer feedback, (3) try-again feedback, or (4) explanation feedback after each problem. For students with low prior knowledge, feedback resulted in better posttest performance than no feedback. However, students with high prior knowledge learned just as much whether they received feedback or not. Results suggest the provision of basic feedback on computer-based homework can benefit novice students' mathematics learning.

Classification: U53 H33 D63
Keywords: feedback; problem solving; computer-based homework; mathematics learning
doi:10.1016/j.chb.2016.05.082