A Randomized Trial of Mathchievement vs. Standard Online Math Homework

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Abstract
Gamification, or the application of video game principles to instructional activities, can increase student effort and performance. This article describes the first randomized trial of Mathchievement, which is a gamified version of the WeBWorK mathematics homework program. Compared to the standard WeBWorK homework condition, students in the Mathchievement condition showed stronger performance on measures of study habits and mathematics skills achievement.

Gavin Waters and Kayla Waters met in graduate school at the University of Iowa, he pursuing a PhD in mathematics, and she a PhD in school psychology. Gavin currently teaches mathematics at Missouri Western State University, and Kayla teaches in the human services department at Washburn University. Their passions include playing outside with their two wonderful little boys, arguing educational theory over wine, and combining professional pursuits.

Kevin Anderson received his BA in mathematics at Bethany College in Lindsborg, KS. He received his masters and PhD in mathematics at Kansas State University in 2001, where he studied map theory and group theory. He currently teaches at Missouri Western State University. Kevin is a recipient of the James V. Mehl Outstanding Faculty Scholarship Award at MWSU for 2002-2003. When not teaching or doing research, he enjoys motorcycle riding and spoiling his cat.