Learning Trajectories for Everyday Computing: Integrating Computational Thinking in Elementary Mathematics

This project is a multidisciplinary effort that studies integrated mathematics and computational thinking (CT) instruction in elementary school classrooms. Investigators use prototype learning trajectories (LTs) for CT in grades K-5 to design instructional materials that integrate CT into fractions instruction in grades 3-5. By studying implementation of these materials in elementary school classrooms, the project will (a) refine the LTs, (b) better understand how synergies between elementary mathematics and CT might be leveraged to create effective and efficient integrated instruction, and (c) generate evidence related to the effect of CT-infused mathematics instruction on students' understanding of fractions. The project is funded by the STEM+Computing Program, which seeks to study the applied integration of computational thinking and computing within disciplinary STEM teaching and learning in early childhood education through high school (preK-12).