Navigating the Straits:
Critical Instructional Decisions in Inquiry-Based College Mathematics Classes

Sandra Laursen, Marja-Liisa Hassi, and Anne-Barrie Hunter

University of Colorado at Boulder

Abstract

Inquiry-based learning (IBL) approaches engage college mathematics students in analyzing and solving problems and inventing and testing mathematical ideas for themselves. But to effectively apply IBL teaching methods, instructors must make good decisions both in planning their syllabus, assignments, and assessment before the term begins, and in the moment, as they monitor classroom progress, manage interpersonal dynamics, and decide what to do when things do not go as planned. Using interview data from 40 IBL instructors at four campuses, including graduate teaching assistants and faculty at a range of experience levels, we identify critical instructional decisions that can affect the success of IBL classes. We describe why these decisions are more salient in IBL classrooms than in those using lecture-based methods, and we examine patterns in instructors' ability to identify these issues for themselves and suggest appropriately nuanced solutions to common IBL classroom dilemmas.