

Navigating the Implementation of an Inquiry-Oriented Task in a Community College

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Key Words: teaching, symmetry, community college, mathematical discourse

Abstract: Teachers implementing inquiry-oriented, discourse-promoting tasks can face a number of challenges (Speer & Wagner, 2009; Ball, 1993). In this study we will examine the challenges faced by two community college instructors as they implement such a task in a “transition to proof” course. In this task students initially use their informal ideas of symmetry to develop a criteria to quantify the symmetry of six figures (see Larsen & Bartlo, 2009), these criteria are then formalized into definitions for symmetry and equivalent symmetries. During this task a number of conflicts arise, and to resolve these conflicts the students engage in rich mathematical discourse. While this task and ensuing discourse offer opportunities for learning mathematics, they also offer significant challenges for effective implementation. We aim to identifying these challenges and the ways in which these challenges were navigated as the class worked towards formal definitions of symmetry and equivalent symmetries.