

1116-AB-1557 **Sean P Larsen*** (slarsen@pdx.edu). *An Ongoing Effort to Create Effective InquiryOriented Abstract Algebra Classrooms.*

The purpose of the Teaching Abstract Algebra for Understanding (TAAFU) project was to begin “scaling-up” an innovation in abstract algebra instruction. The focus of the project was an inquiry-oriented course in group theory. The course is built around three core instructional sequences in which students reinvent fundamental group theory concepts (groups, isomorphism, quotient groups). We collaborated with mathematicians teaching the course in order to understand what they needed to be able to implement the curriculum successfully. We learned that the mathematicians needed knowledge of student thinking (e.g., common alternative or incorrect conceptions) in order to listen productively during class discussions. We learned that the mathematicians needed to do significant mathematical work on the fly when teaching the course (e.g., evaluating unusual conjectures and proofs). We learned that mathematicians had differing perspectives on the nature of the teacher’s role in inquiry-oriented instruction, and as a result, they worried about different things when teaching the course. In my presentation, I’ll discuss some of these findings in more detail and describe how we are supporting instructors with online materials designed to address needs that were revealed by our research. (Received September 20, 2015)