How do we teach mathematics for understanding? This question served as the basis for a professional development partnership between math faculty and 8-12 educators. This session will emphasize the development and structure of this year-long partnership that was designed to help middle- and high-school mathematics teachers improve the depth of students’ knowledge of algebraic procedures. Productive impacts on teacher knowledge and pedagogical practices will be linked to improvements in student understanding. A digital classroom observation instrument designed to evaluate teachers’ instructional emphasis on procedural understanding will also be discussed. (Received September 15, 2008)