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Hyman Bass* (hybass@umich.edu), 4204C School of Education Building, University of Michigan, 610 E. University, Ann Arbor, MI 48109-1259, and **Deborah Loewenberg Ball*** (dball@umich.edu), 4119 School of Education Building, University of Michigan, 610 E. University, Ann Arbor, MI 48109-1259. *Using mathematics in teaching: What do teachers and mathematicians need to learn?*

This presentation focuses on the persistent problem of preparing teachers who know and can make effective use of mathematics in their practice. We first examine particular problems teachers have to solve in the course of their work. This analysis offers a grounded perspective on the mathematical knowledge that is needed to teach mathematics well. We then consider how one might design opportunities for teachers to develop such mathematical knowledge in ways that enable them to use it in practice. (Received June 28, 2000)