Just as doing mathematics creates opportunities to learn mathematics, "doing teaching" creates opportunities to learn to teach. Nowhere is this more applicable than for graduate students who have little or no teaching training prior to their first teaching assignments. We report on our analysis of how the research literature on teachers’ on-the-job learning can be applied to the context of graduate student professional development. We combine this analysis with our synthesis of findings about the role of teachers’ knowledge about student thinking in shaping instructional practices and student learning opportunities. Our findings take the form of a framework, grounded in research on teacher learning, to guide the design of activities and programs to equip graduate students with the skills and dispositions to inquire into and learn from their teaching experiences. (Received September 12, 2007)