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Mathematical concepts are often taught in isolation, with few opportunities provided for students to make explicit connections between concepts or content areas. However, seeking and making connections is an effective way to deepen conceptual understanding and prepare for advanced mathematics study. Additionally, many high-level careers require critical thinking skills and the inclination and ability to understand how ideas and concepts are intertwined. Teachers are expected to prepare students for mathematics-intensive careers and study, so they need to be able to do these things for themselves, as well as nurture these abilities in their students. How can we support pre-service teachers in learning to make connections? What kinds of problems naturally lead to an intrinsic need to discover and utilize connections and to deepen conceptual understanding? In this talk we describe some ways we have found effective in supporting future teachers of mathematics in being able to make connections themselves, utilizing them for problem-solving, and supporting students' ability and desire to discover and use mathematical connections. (Received July 15, 2015)