Concept Maps are emerging as tools to assess students’ understanding of concepts in many disciplines. This session will begin with a brief overview of concept maps and what they can say about students’ understanding. Findings from research on the connections students make between the multiple representations of functions collected during interviews where participants were asked to construct concept maps will be discussed. Examples of students’ work indicating understanding of quadratic functions from a Precalculus course will also be presented. (Received September 22, 2010)