While many instructors may assume that their students have a good conception of equality, recent investigations on students’ algebraic reasoning suggest that this may not be the case. This report examines the ways undergraduate students interpret expressions involving the equals sign and use the equals sign to represent situations involving comparisons. The study describes two perspectives that can be used to understand the ways students think about the equals sign: a semiotic perspective and a cognitive perspective. The presentation will discuss the benefits of each perspective along with their implications for instruction. (Received September 16, 2010)