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**Aaron Brakoniecki\*** (brak@bu.edu). *Concept Maps as a Way to Assess Form and Quality of Student Understanding of Algebra Concepts.*

In order to understand how students are making sense of the mathematical concepts they are learning, mathematics teachers need an assessment tool that captures this information. A concept map “visually illustrates mathematical connections and describes them in writing” (Baroody & Bartels, 2000). This tool allows students to represent their own understanding of mathematics content, both by visually connecting mathematical concepts that they see as related, and also describing in their own words their understanding of the relationships.

This talk presents the results of an attempt to use concept maps in an algebra content course in a teacher preparation program for beginning secondary teachers. These beginning teachers created concept maps both at the beginning and end of the semester that represented how they understood the relationships among key areas of high school algebra. This presentation shows how these beginning teachers grew and changed in their understanding of algebra through the course, and what that change looks like in concept maps. Additionally, this talk illustrates the affordances and challenges of using this assessment strategy when attempting to understand how individuals understand mathematics content. (Received September 15, 2015)