1125-N1-1588
Nicholas Kirby (kirbyn@apsu.edu), Department of Mathematics and Statistics, P.O. Box 4626, Clarksville, TN 37044, and Jennifer Yantz* (yantzj@apsu.edu), Department of Mathematics and Statistics, P.O. Box 4626, Clarksville, TN 37044. What Were They Thinking? Students in College Algebra Confront Misconceptions by Analyzing Errors in Examples of Student Work. Preliminary report.

Professors in typical College Algebra courses are often frustrated by the errors students make that are unrelated to new concepts but stem from a lack of basic algebra skills that should have been mastered in high school. Some of the most common errors involve prerequisite skills such as combining like terms, applying the distributive property of multiplication over addition, factoring polynomials, simplifying or combining rational expressions and applying rules of exponents when solving equations involving radicals. These errors prevent students from advancing their mathematical knowledge and may hinder their progress in modeling mathematically or engaging in problem-solving in a College Algebra course. In this study, the investigators sought to determine if remediation activities in which students examined and analyzed errors in the work of other students, accompanied by focused class discussions of the underlying mathematical concepts, would increase students' mathematical understanding and reduce the number of errors that they make. The quantity and pattern of errors on common assessments were analyzed and compared for a control and experimental section of College Algebra. We present preliminary data regarding the effectiveness of this intervention. (Received September 18, 2016)