

1106-P1-1311 **Janet Sharp*** (janet.sharp@washburn.edu), 250H Morgan Hall, Washburn University, Topeka, KS 66621. *Dynamic Representations as a Conceptual Foundation for Defending non-Traditional Procedures in a Subtraction Algorithm.*

When learners create representations of mathematical ideas and processes, they develop understandings of mathematics and essential elements of communication of mathematical ideas. A good representation can strengthen conceptual knowledge. Electronic technology has the capacity to allow representations to be dynamic in nature, rather than static, and this advantage allows representations to more closely correspond with real-time step-by-step mathematical procedures. The iPad application, educreations, allows students to demonstrate conceptual and procedural knowledge in a dynamic manner, and capture those thoughts with a video record of thinking that can be revisited later. Such animated representations hold promise for redefining how a learner represents mental ideas. Educreations is user-friendly and lends itself to creating and storing the final representations. This paper describes results of two different groups of K-8 prospective teachers who experienced different kinds of lessons about subtraction during their elementary mathematics content course. The assessment task required students to analyze a child's static written record of her invented subtraction procedure and use their conceptual knowledge to justify the generalizability of the algorithm's procedures. (Received September 12, 2014)