1067-V1-2088 **Rebecca J. Schmitz*** (schm2676@umn.edu), MathCEP, 4 Vincent Hall, 206 Church Street SE, Minneapolis, MN 55455, and **Harvey Keynes** (keynes@math.umn.edu), MathCEP, 4 Vincent Hall, 206 Church Street SE, Minneapolis, MN 55455. *Student learning and retention of key concepts in sequences and series.*

This paper further explores student understanding of key concepts in sequences and series including the understanding of infinite repeating decimals and their connections to infinite series. In addition to talented high school students in honors University calculus, we look at several standard and honors freshman and sophomore calculus and post-calculus courses and examine students' pre- and post-instructional knowledge. The data obtained indicates significantly differing levels of understand before and after instruction as well as differing levels of gain. These results have implications for the structure and teaching of bridge courses to higher-level mathematics. Finally, there is additional evidence that conceptual approaches to teaching and learning result in better retention of these ideas. (Received September 22, 2010)