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Kevin McLeod* (kevinm@uwm.edu). *The Education of Future K-12 Mathematics Teachers and the “Compulsion to Compute”*.

In a recent study of the mathematics knowledge of community college students enrolled in remedial mathematics classes, Stigler, Givvin and Thompson observed a habit of mind they termed a “compulsion to compute”: these students were quite capable of mathematical reasoning, but chose not to reason if a problem was presented in a manner that apparently allowed for computation as a possible solution strategy—even when computation was in fact impossible. The compulsion to compute is presumably not innate: rather, it is instilled in students during their formal mathematics education. This talk will first explore the negative consequences of a compulsion to compute, and will then turn to a discussion of the education of future mathematics teachers with a particular emphasis on strategies that might help them to avoid instilling a compulsion to compute in their own students. Finally, it will be argued that many of the same principles can and should be applied to all undergraduate mathematics courses, not just those taken exclusively, or largely, by future teachers. (Received July 27, 2014)