

Meeting: 1003, Atlanta, Georgia, MAA CP K1, MAA Session on Countering “I Can’t Do Math”: Strategies for Teaching Under-Prepared, Math-Anxious Students

1003-K1-435 **Michael J. Gilbert*** (michael.gilbert@mail.ewu.edu), 216 Kingston Hall, Department of Mathematics, Eastern Washington University, Cheney, WA 99004-2418. *Making the connection, keeping the level of cognitive demand high.*

Under prepared, math-anxious students are more likely to approach tasks as a set of procedures to follow, without considering the characteristics of the mathematics. When students are only asked to remember routine procedures there will be reduced opportunities for learning. There are two components to the paper: a systematic articulation of the concept of cognitive demand (Stein 2000), with examples of tasks at both high and low levels, and a case study account of the disconnect that was observed between practicing teachers’ intentions to keep the level of cognitive demand high and the instruction that was actually delivered in their classrooms. A rubric for analyzing tasks within the spectrum of thinking and reasoning required by various math tasks will be introduced and sample problems will be analyzed. Inservice teachers made positive comments about the experience of sharing interesting ideas, yet they consistently reported reluctance to emphasize multiple representations in their own teaching. Included is a list of potential planning questions and a template teachers may use to focus attention on the subtle affordances of various task scenarios, how the mathematical basis of tasks can be uncovered by making small changes in problems. (Received September 14, 2004)