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Andrew J Cousino*, Dept of Math, Cardwell Hall, Manhattan, KS 66502-2602. *Classifying Students by Conceptual Understanding in Real-Time.*

Is it possible to determine when students gain conceptual understanding during semester? I have built a real-time model of students' conceptual understanding in college algebra. It is updated after each assignment and exam and says whether each student is more likely to be learning than not based on grade of their work. A number of interesting questions arise from a model like this: can we tell when a student starts learning or stop learning, how quickly can we identify whether a student will almost certainly be one who learns throughout the semester, which assignments are better at classifying students, which assignments increase or decrease the number of students who are learning. The model is built using Bayesian learning, having been trained on college algebra students from last year, being tested on college algebra students from this year, and using Pre-calculus Conceptual Analysis exam (developed at Arizona State University by Marilyn Carlson, et al.) to initially classify students. (Received September 22, 2010)