SEMINAR SERIES

Practical Learning Research at Scale (and Relevance to HCI Education)

ABSTRACT:
Massive scale education has emerged through online tools such as Wikipedia, Khan Academy, and MOOCs. The number of students being reached is high, but what about the quality of the educational experience? As we scale learning, we need to scale research to address this question. Such learning research should not just determine whether high quality has been achieved, but it should provide a process for how to reliably produce high quality learning. Scaling practical learning research is as much an opportunity as a problem. The opportunity comes from the fact that online courses are not only good for widespread delivery, but are natural vehicles for data collection and experimental instrumentation. I will provide examples of research done in the context of widely used educational technologies that both contribute interesting scientific findings and have practical implications for increasing the quality of learning at scale.

BIO:
Kenneth R. Koedinger is a professor of Human Computer Interaction and Psychology at Carnegie Mellon University. Dr. Koedinger has an M.S. in Computer Science, a Ph.D. in Cognitive Psychology, and experience teaching in an urban high school. His multidisciplinary background supports his research goals of understanding human learning and creating educational technologies that increase student achievement. His research has contributed new principles and techniques for the design of educational software and has produced basic cognitive science research results on the nature of student thinking and learning. Koedinger directs LearnLab, which started with 10 years of National Science Foundation funding and is now the scientific arm of CMU’s Simon Initiative. LearnLab builds on the past success of Cognitive Tutors, an approach to online personalized tutoring that is in use in thousands of schools and has been repeatedly demonstrated to increase student achievement, for example, doubling what algebra students learn in a school year. He was a founder of Carnegie Learning, Inc. that has brought Cognitive Tutor based courses to millions of students since it was formed in 1998. Dr. Koedinger has authored over 245 peer-reviewed publications and has been a project investigator on over 45 grants.

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