

EPFL School of Computer & Communication Sciences

CHILI Lab (Human-Computer Interaction in Learning & Instruction)

Prof. Dan Schwartz, Stanford

Monday July 15th 2013

10:15 – 12:00 Room BC 420

Why inductive learning is neglected but central to the learning sciences?

Abstract. Induction is the process by which people find pattern and rule across examples. It is the cognitive heart of discovery learning and the scientific process. Induction also makes it possible to taste new flavors in beer. Induction is a powerful learning mechanism that can yield more precise knowledge, better transfer, and longer retention. If done poorly, it can also lead to very tenacious misconceptions. If it is so important for learning, why have you never heard of it before? Where can you get some for your students?

13:15 – 15:00 Room BC 420

How to build an educational neuroscience? Two approaches with concrete instances.

Abstract Educational neuroscience is an emerging discipline, but it is not a uniform endeavor. There are different ways for it to make progress. We describe two broad approaches, which we agnostically label Culture A and Culture B. Culture A is currently the more frequent approach. It relies on individual differences to advance the science with a special emphasis on solving the challenges faced by learners with special needs. Culture B is less common. It examines the effects of contextual variables on typical learners to make headway at solving theoretical problems in education and improving general instruction. Both are valuable and both seek to improve education. By describing their differences, along with concrete examples of their logic, findings, and cultures of work, we hope to help both neuroscientists and educators answer a key question about one another's work, "Why do they find that worth doing?"

Bio. Daniel Schwartz is a Professor in Education and the Symbol Systems program at Stanford. After teaching in public schools for 8 years, Professor Schwartz completed a PhD to understand and improve instruction through the development of innovative technologies for learning and assessment. His graduate training included extensive work in computer and cognitive science. Professor Schwartz's research spans the high variability of classrooms to the tightly controlled confines of fMRI (see AAALab.Stanford.Edu). His abiding question is how perception can facilitate understanding and learning.
