Learning Sciences Brown Bag Colloquium Series
-Co-Sponsored by MPES-

Joshua Danish, Ph.D – Indiana University
Thursday, February 18th, 12:30-1:30pm, Annenberg 303

Developing a Sociocultural Framework for Embodied Cognition

In this talk I propose a sociocultural framework for embodied cognition. This framework integrates and extends the prior literature on embodied cognition by explicitly addressing how the impact of an individual's embodied activity are inextricably linked to their sociocultural context, and how research focused on embodied cognition must necessarily address both the individual and their context. I will describe several recent studies of the Science through Technology Enhanced Play (STEP) environment to illustrate this framework and explore its role in supporting the design of technology rich learning interventions. STEP is an augmented reality environment where early elementary students (1st and 2nd grade) engage with science simulations by interacting within a classroom environment. The first study explores how the STEP activities promoted student reflection as the students learned about the particulate nature of matter. The second study explores the organization of activity by contrasting a playful modeling condition with a more game-like and directed experience. Finally, the third experiment contrasts student's fully embodied engagement in the original STEP environment with a version where they control their avatars using iPads, allowing us to attend to the relative benefits and challenges of the embodied interaction.

Joshua Danish is an Associate Professor of the Learning Sciences at Indiana University. His research explores how people learn in rich activity systems with a focus on how students benefit from working with representations of their ideas such as drawings, computer simulations, and embodied skits. A primary focus of this work has been on how early elementary students can engage deeply with complex science ideas when the classroom activity builds upon their developmental strengths.

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