

Science Education Colloquium

Show them the data: A strategy to engage and motivate students

Clark Coffman

Associate Professor, Department of Genetics, Development, and Cell Biology
Iowa State University

Thursday, June 11, 2015 - 4:00pm-5:00pm
Natural Sciences Building (NSB) Auditorium
Register [here](#)

Bio: Clark Coffman is an Associate Professor, and Director of Graduate Education-Molecular, Cellular, and Developmental Biology in the Department of Genetics, Development and Cell Biology at Iowa State University, Ames. He received his PhD in Biology at UC San Diego (Drs. Harris and Kintner). After postdoctoral appointments at the University of Colorado at Boulder (Dr. Boswell), Dr. Coffman joined the faculty at Iowa State at Ames: <http://www.public.iastate.edu/~ccoffman/index.html>

Abstract: As educators, we struggle to find ways to engage and motivate our students to learn. Getting our students engaged is particularly important in large introductory courses that have very diverse student populations and serve as gateways to advanced studies. Unfortunately, students often resist evidence-based, active learning pedagogical techniques because these methods of learning do not align with student expectations and involve more challenging activities. Reluctance to engage can also lead to the development of inefficient study strategies. **How can we create learning environments that motivate students to engage and struggle with the course material in ways that help them achieve the desired learning outcomes?**

Although there are no solutions that will work in every classroom and educational context, we have assembled an interdisciplinary team with expertise in education, psychology, biology, and engineering to explore some possible avenues of instruction that will encourage better study habits and improve student metacognition. This presentation will focus on studies that use a “Show them the data” strategy as a mechanism for engaging and motivating students.



The Team-from left to right. Robert D. Reason¹, Shuhebur Rahman², Monica H. Lamm³, Terry J.S. Lund^{2,4}, Shana K. Carpenter², Patrick I. Armstrong², Clark R. Coffman⁴ - ¹School of Education, ²Department of Psychology, ³Department of Chemical and Biological Engineering, ⁴Department of Genetics, Development, and Cell Biology. Iowa State University, Ames, IA