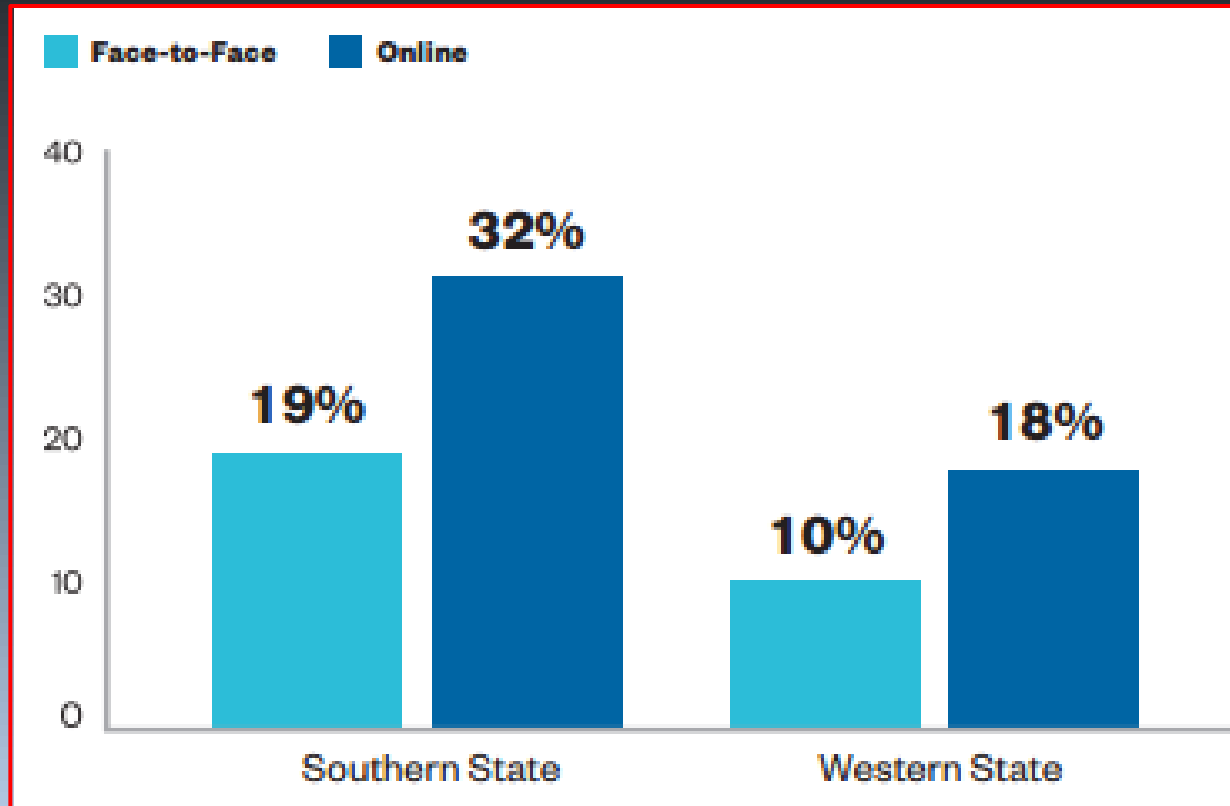




Flathead Valley
Community College



Failure/Withdrawal Rates in Online and Face-to-Face Courses

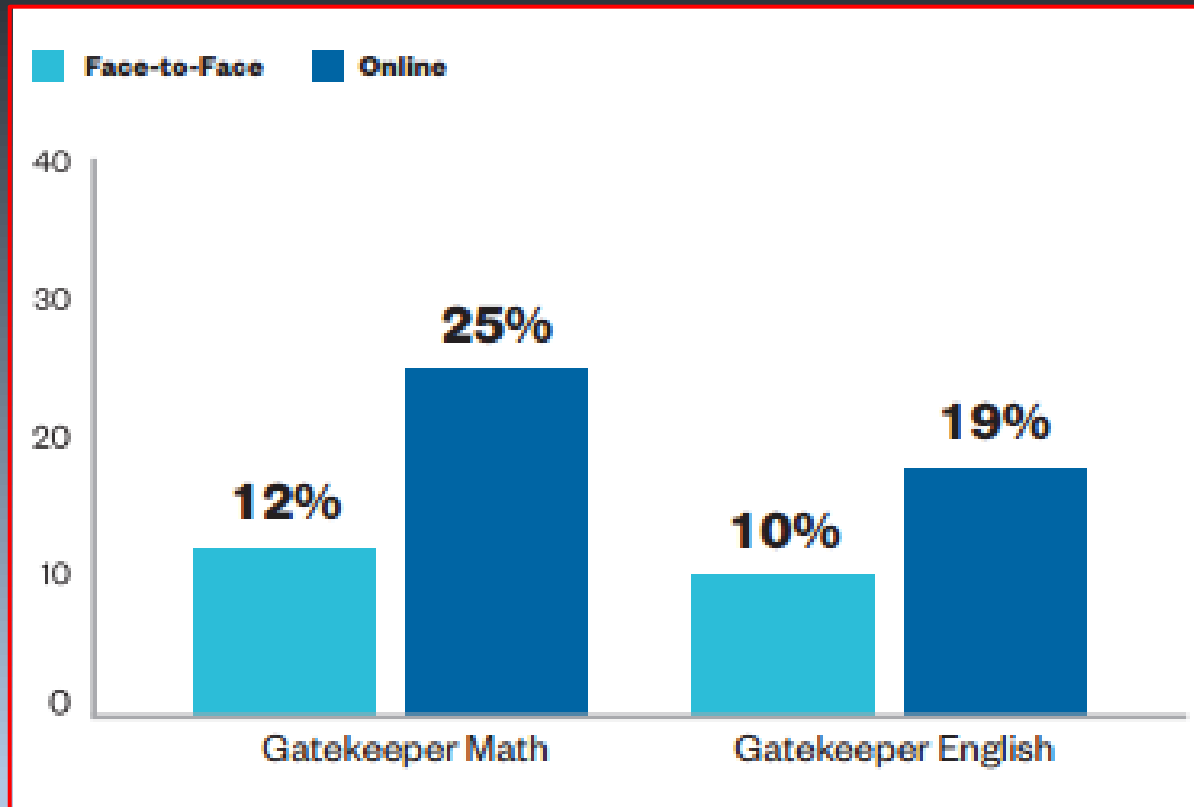


Southern State-24,000 students, 23 community colleges, 2004-2008
Western State-51,000 students, 34 community colleges, 2004-2009

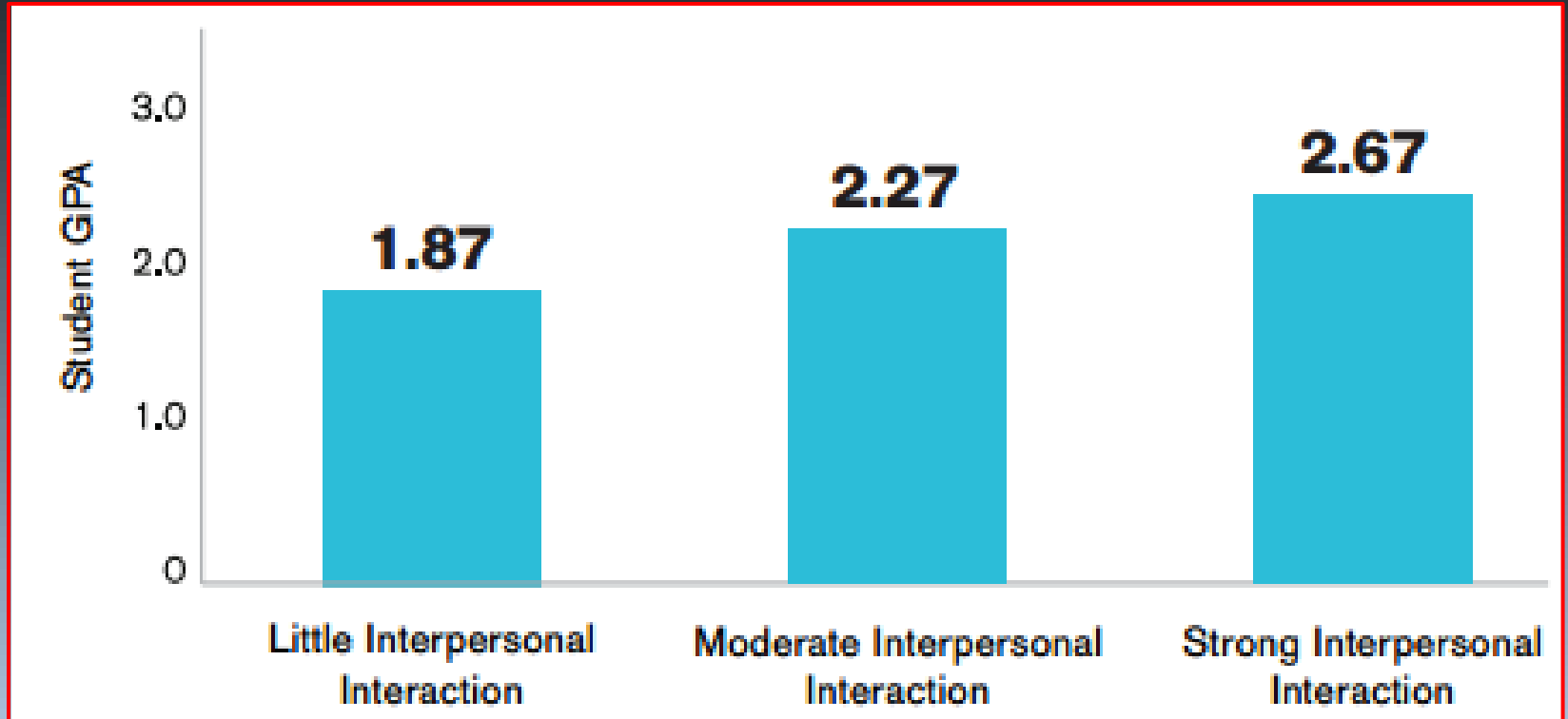
Jagers & Xu, 2010

Jagers & Xu, 2011

Failure/Withdrawal Rates in Online and Face-to-Face Gatekeeper Courses in a Southern State

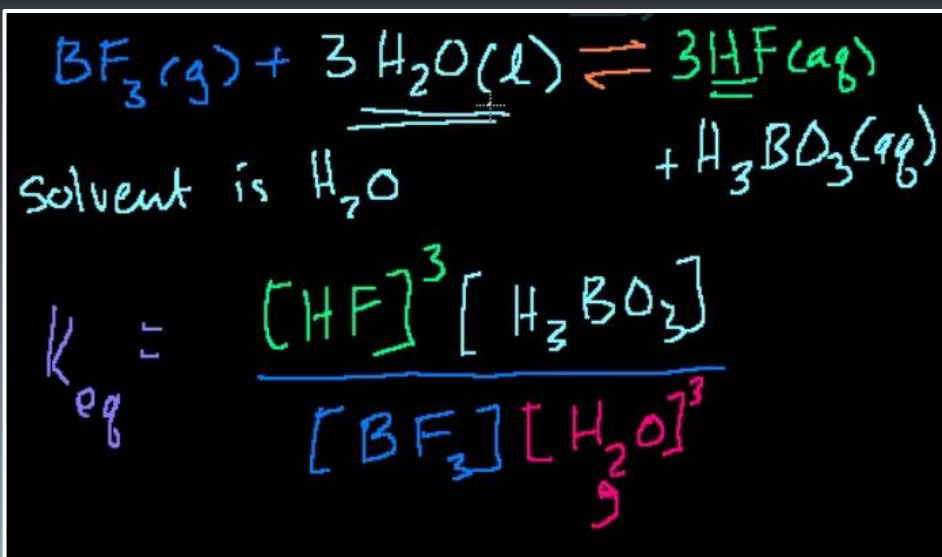


Interpersonal Interaction Correlates with Student Performance



Analysis based on sample from 35 course sections from 23 online courses and transcripts from 678 students who completed at least one section

Video Lecture Formats Inhibit Instructor-Student Connection



Section 9.1

Information Given by Chemical Equations



- The equation is balanced.
- All atoms present in the reactants are accounted for in the products.
- 1 *molecule* of ethanol reacts with 3 *molecules* of oxygen to produce 2 *molecules* of carbon dioxide and 3 *molecules* of water.
- 1 *mole* of ethanol reacts with 3 *moles* of oxygen to produce 2 *moles* of carbon dioxide and 3 *moles* of water.

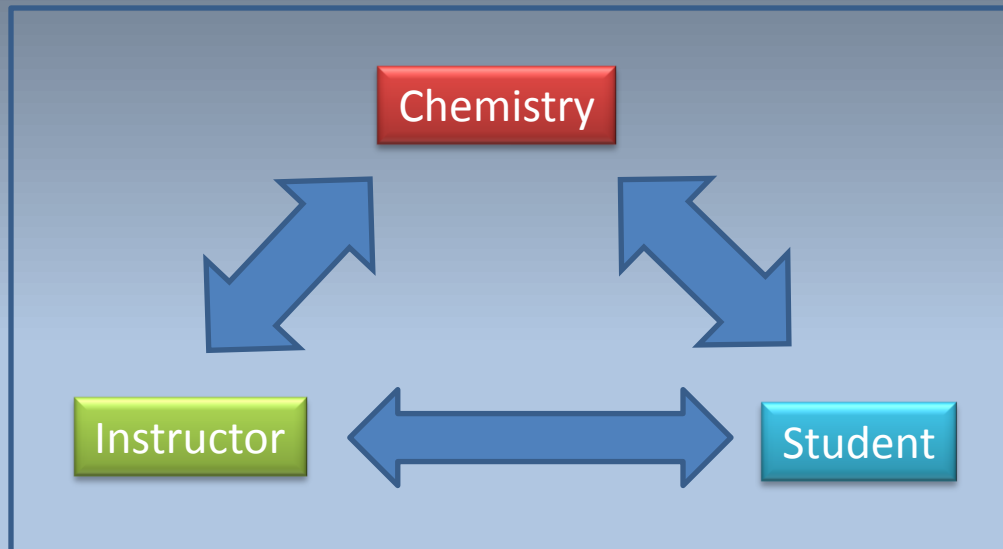


- Instructor representation is absent or unreadable
- Non-verbal communication (instructor and student) is largely absent
- Eye contact is impossible
- Chemical representations are presented in isolation
- Little or no integration of real 3D objects

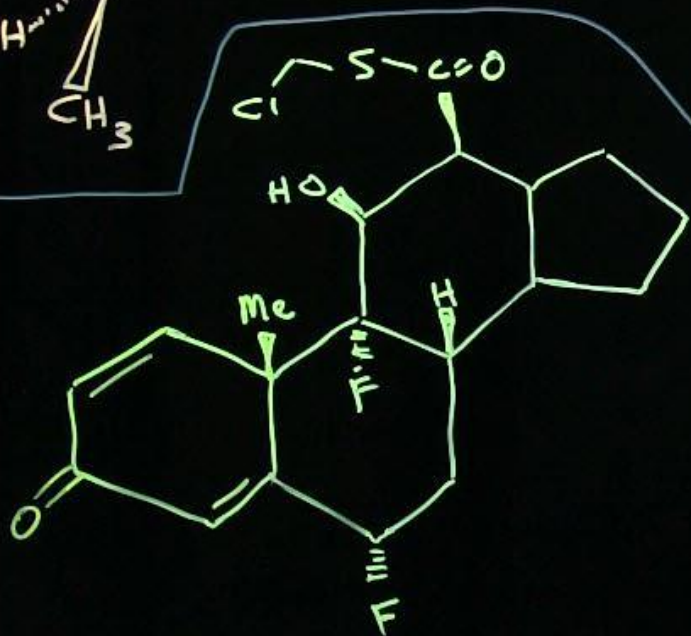
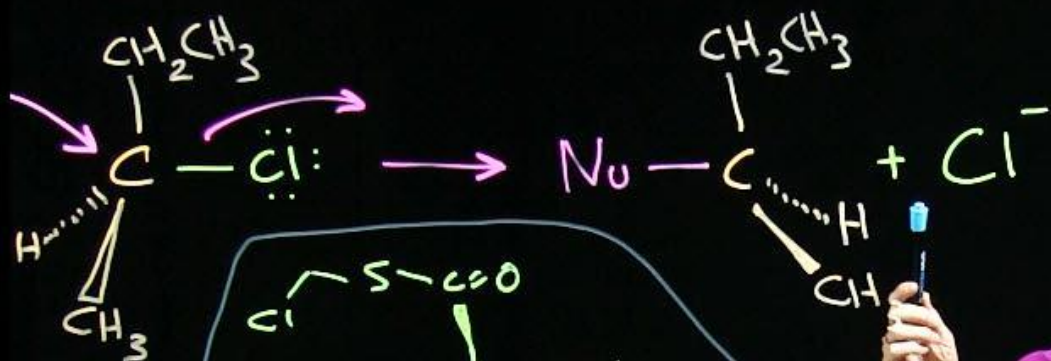
From Cognitive Neuroscience, Developmental Psychology, and Education:

“Hand gestures are a natural, ubiquitous and meaningful part of spoken language- so much so, researchers have claimed that gesture and speech form a tightly integrated system during language production and comprehension.”

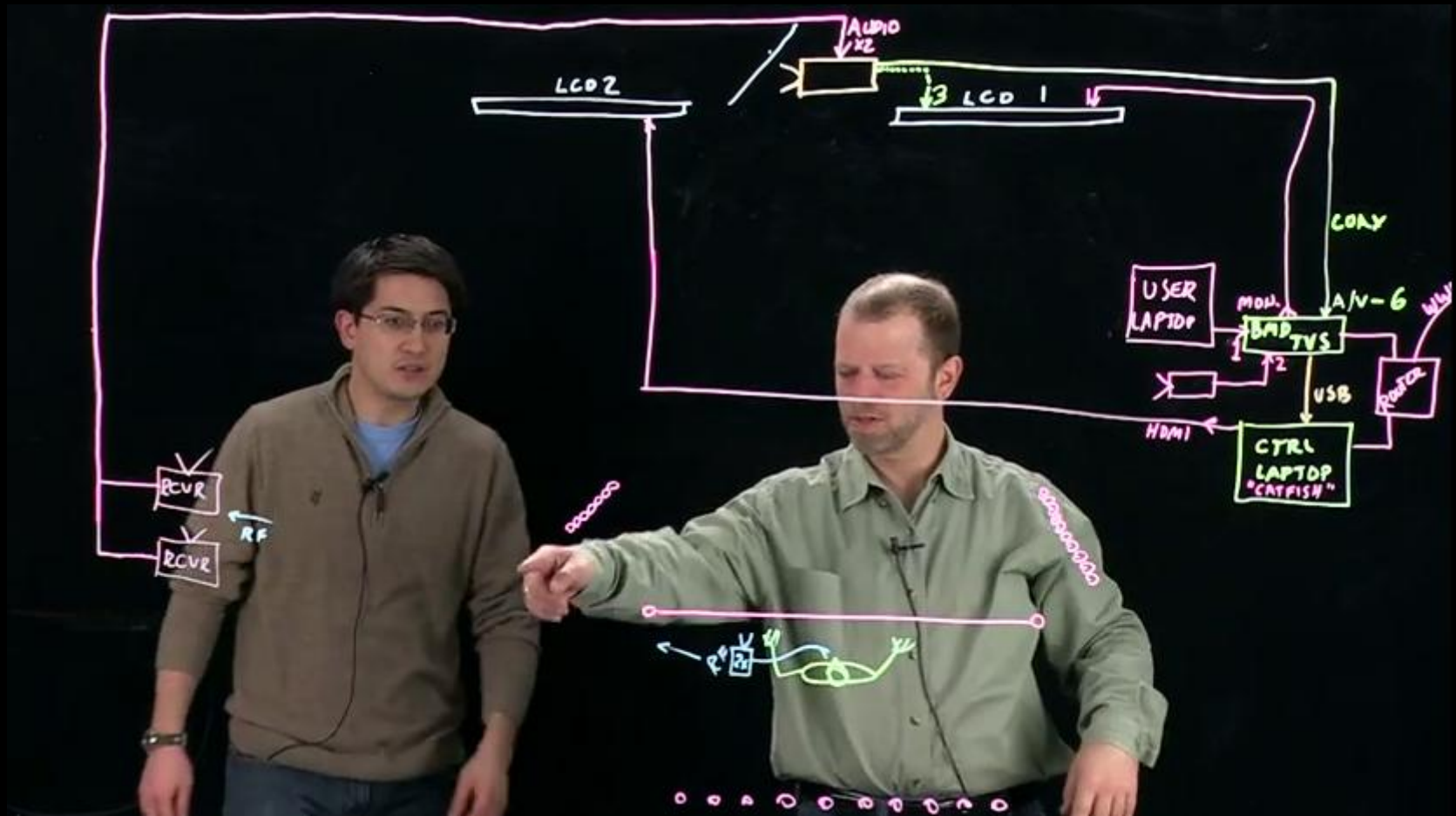
Kelly, Manning, & Rodak, *Language and Linguistics* (2008)



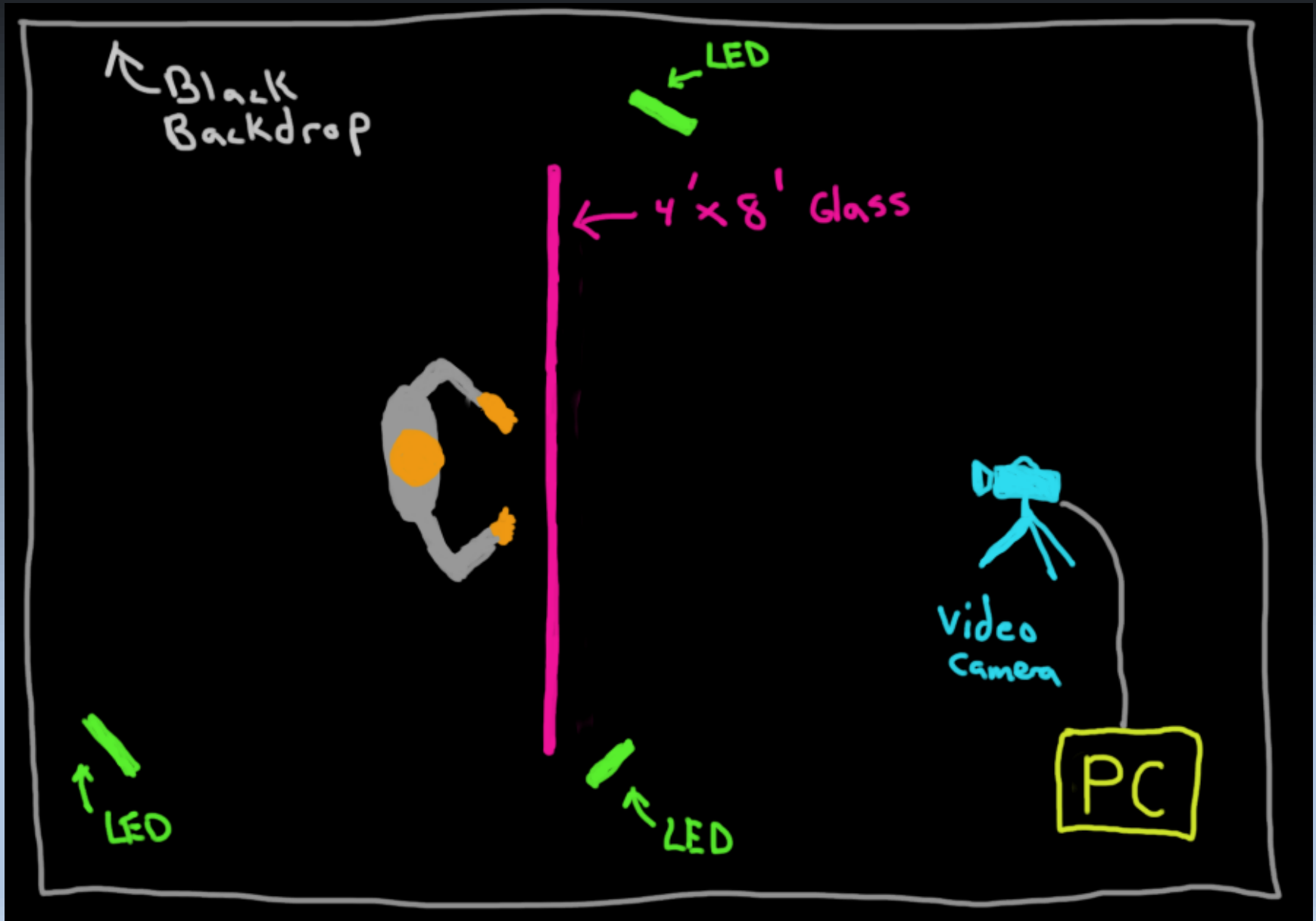
Concerted

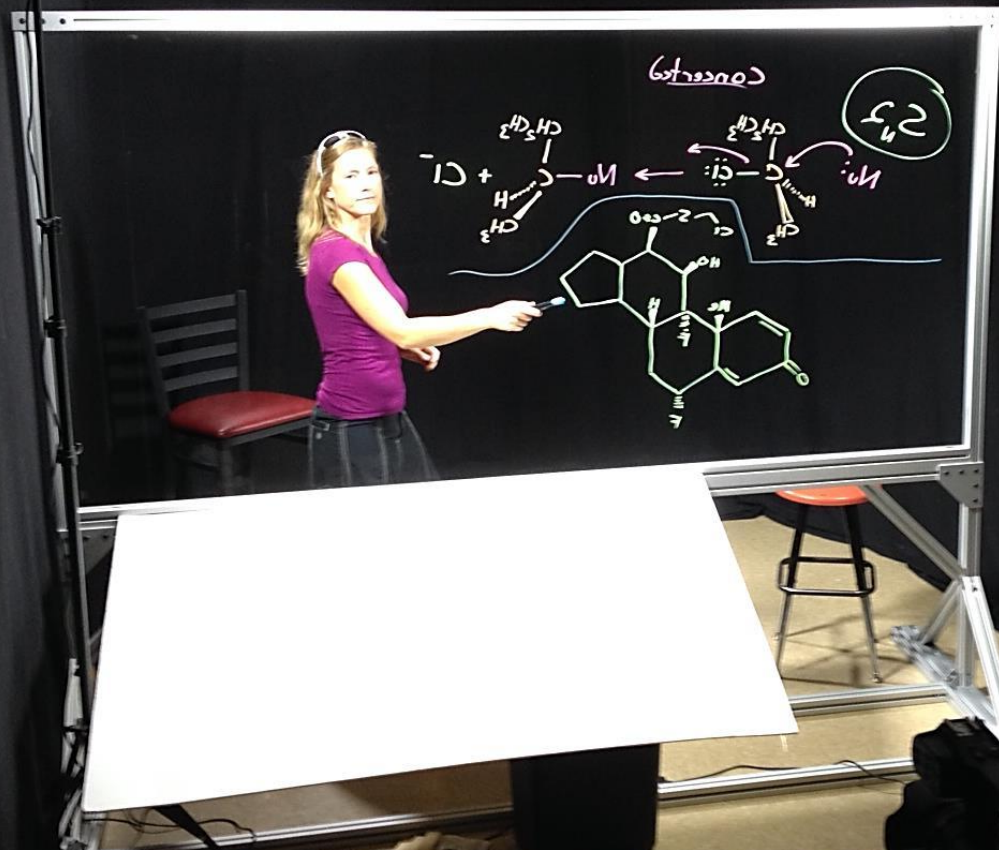


Michael Peshkin (Northwestern University)

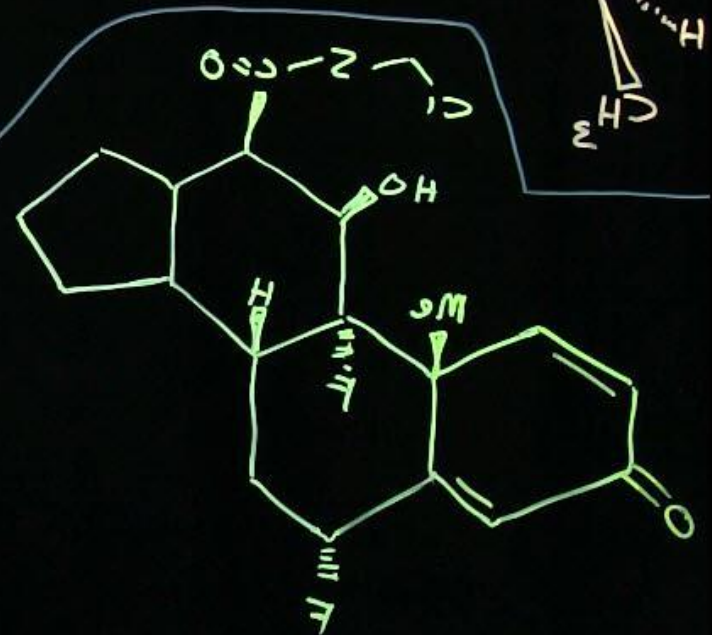
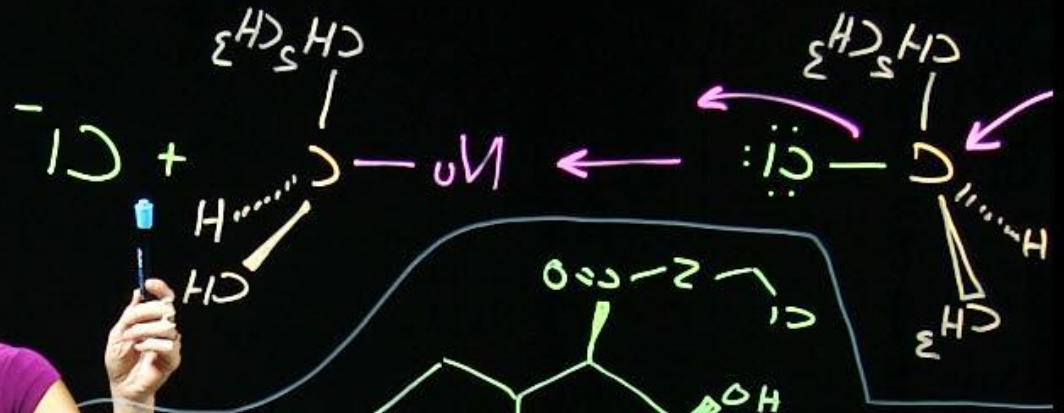


The Lightboard Setup

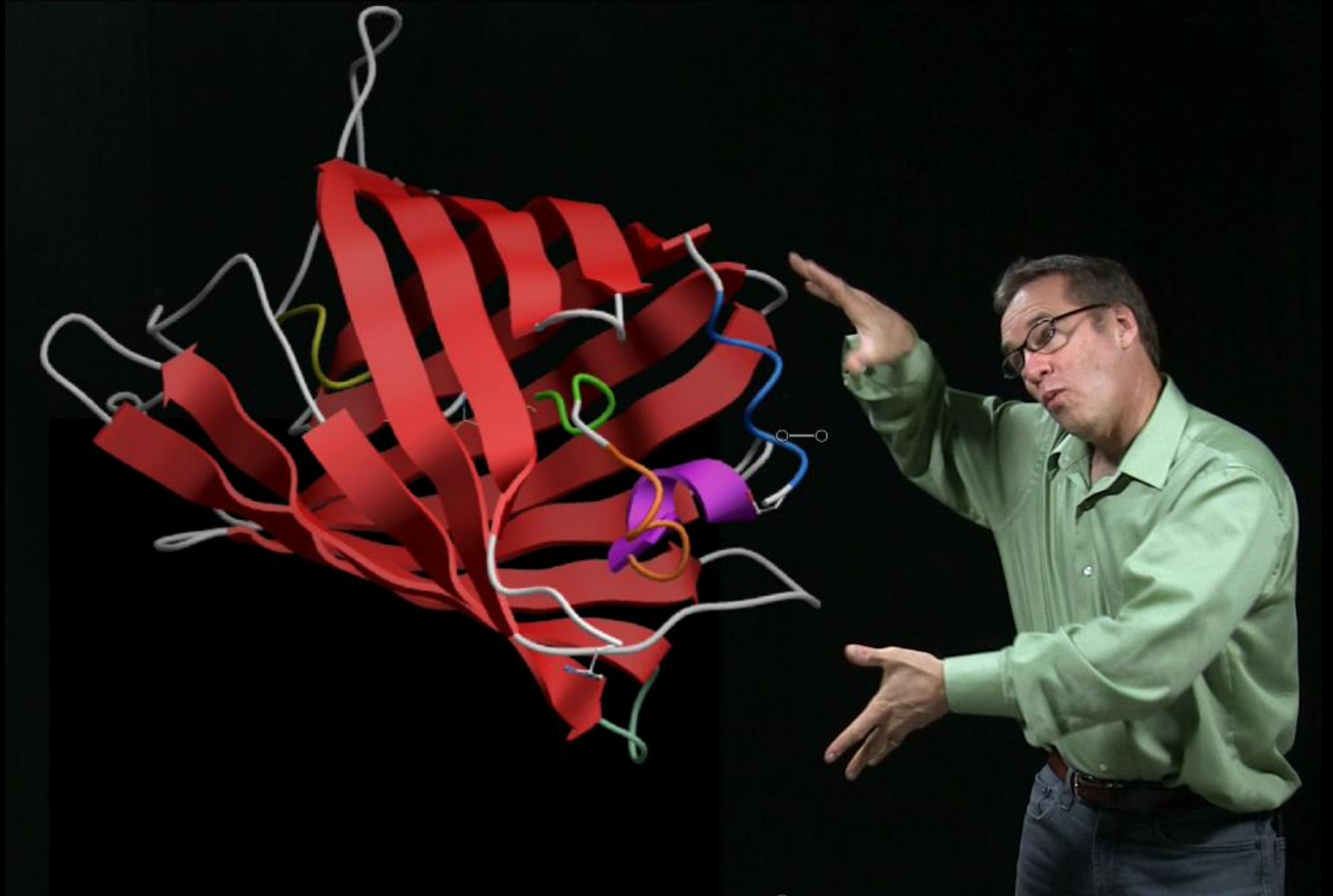




Conversion



GFP Structure (iMolView on the iPad)



Open Questions

- How will the image of an instructor impact student learning and perception of learning?
- To what extent does full integration of instructor/chemical imagery impact student learning?
- What do students look at and think about when they view these videos?
- Will this tool inform instruction?

Eye Tracking Studies: *What are you thinking?*



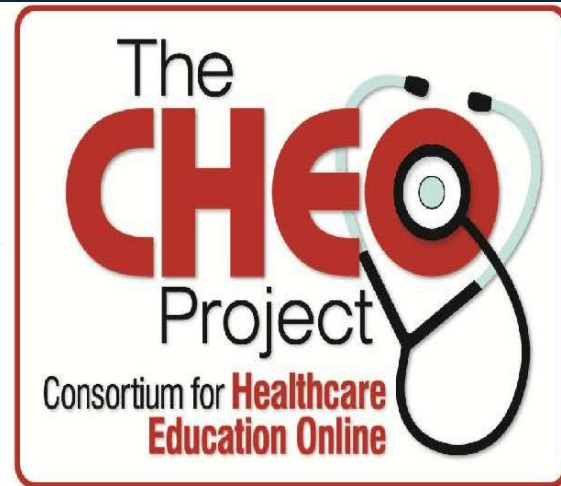
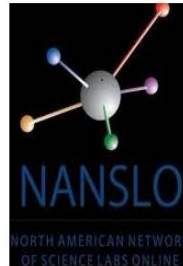
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