Engaging Students and Improving Online Learning: Not Your Typical Earth Science Class

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Engagement = the amount of time and effort students spend on learning activities (Kuh, 2003)

Using technology has been found to be a form of engagement in itself (Laird & Kuh, 2005)

Engaged students are more likely to:

- Complete online courses
- Achieve higher grades (Morris, Finnegan, & Wu, 2005)
- be satisfied with the university experience (Robinson & Hullinger, 2008)
- Show higher levels of self-regulation (Sun & Rueda, 2012; Delen, Liew, & Willson, 2014)
- Use more effective educational practices (Hu & Kuh, 2001)

Prior Studies:

Many studies focus on social engagement (Beldarrain, 2006; Boury, Hineman, Klentzin, & Semich, 2013; Childers & Berner, 2000; Moreillon, 2015)

Few studies examine online engagement with course content (Chen, Lambert, & Guidry, 2010; Hu & Kuh, 2001)
Methods

• Quasi-experimental design
  – No random assignment
• Both groups used standard course materials
• Experimental group had access to interactive lessons
• Lesson access n=26
• No access n=32
• Factor analysis on 17 variables
• Wilcoxon Rank-Sum on 7 variables
Results

No significant difference in
- Quiz grades
- Exam 1 grades
- Exam 2 grades
- Final exam grades
- Final course grade
- Days visited
- Late submissions
What Next?

• Require lesson use?

• Qualitative feedback?

• Additional analysis?
Links to Interactive Lessons

Shaping the Earth
https://www.softchalkcloud.com/lesson/serve/xrE82Jz0RvgU3o/html

The Rock Cycle
https://www.softchalkcloud.com/lesson/serve/jFBCUz4qvgprKG/html
Sources


