

Videos in STEM courses: a 21st century tool in higher education

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Abstract:

The call for actively engaging students in the STEM classroom has increased to a clamour in recent years – in the field of biology, this is reflected through the call for student-centered learning in the 2011 AAAS Vision and Change document (<http://visionandchange.org>). The flipped classroom is arguably the most student-centered and interactive of the various active learning approaches. Central to this type of course are the instructional videos that students watch before class. There are many reasons why educators would decide against flipping their classrooms: one is the need to learn about the available videography technology, develop those skills, then record the equivalent of a semester's worth of lectures, before a semester starts. Who has the time? Beyond the use of videos in the flipped classroom, many dental and medical schools record classroom lectures for students to use as a studying resource outside of class. However, this practice is not common in STEM education. Yet the technology is quite simple, inexpensive, and Blackboard, D2L, Moodle and other learning management systems can all stream videos, simplifying dissemination. In this presentation, we will discuss how we have incorporated instructional videos, lecture capture and screencasts in our courses, describe the simplicity of the technology, and address the perceived problems with using videos. We will then invite participants to brainstorm possible uses beyond lecture capture or lecture-replacement. In a follow-up workshop, we will provide hand-on experience to help participants make their own short instructional videos.

Elements of engagement:

Participants will be invited to identify obstacles to adopting videos as a component of a STEM course, then brainstorm possible uses in their own courses