Videos for Supporting Faculty Adoption of Research Based Instructional Strategies in science courses

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Francis Jones[1] < fjones@eos.ubc.ca >, Tom Scott[2].
[1]EOAS - Earth Ocean & Atmospheric Sciences, UBC, Vancouver, BC. http://eos.ubc.ca/research/cwsei/
[2]CTLT, Centre for Teaching, Learning and Technology, UBC, Vancouver BC.

Abstract

Several short, carefully produced video clips of real classes have been built to exemplify Research Based Instructional Strategies (RBIS) in action. Videos are on a website accompanied by explanations, references and teaching resources. The objective is to provide targeted, well documented examples as an efficient alternative to more time-intensive professional development opportunities like workshops or observing live classes followed by discussions of teaching and learning strategies with colleagues. This Digital Showcase will include background, context, and some quick examples from the collection. The method of deployment, and resources that accompany the videos will also be demonstrated. See the video resources at http://blogs.ubc.ca/wpvc/ .

Summary

We are building a set of short, carefully produced video clips of science classes being taught using Research Based Instructional Strategies (RBIS) in several science disciplines and at all undergraduate levels. The videos are provided on a website accompanied by explanations, references and teaching resources. The purpose of this collection is to support organized or self-directed teaching-related professional development for research faculty, without imposing significant time commitments.
A growing literature on adoption and retention of RBIS among existing and new research faculty in a range of disciplines suggests that the process is challenging, slow, and not always sustainable. One of many reasons is that teaching using RBIS represents an additional layer of expertise that is not yet commonly acquired as part of PhD and post-doctoral training. At most institutions a range of opportunities are offered for teaching-related professional development targeting new and existing faculty members and graduate teaching assistants. Examples include workshops, consulting services, “embedded” discipline-based education specialists, and collegial interactions such as observing and discussing the practices of colleagues. However, these can prove time consuming, expensive or inconsistent since every class is different and there may be few opportunities to analyze or deconstruct the dynamics of teachers and students within the context of how people learn. Our videos aim to provide short, inexpensive, focused and well documented illustrations of teaching and learning using RBIS in real classrooms.

Some videos were produced by ourselves and others involved a professional video production team. Regardless of quality, the purpose is to provide a concise view of what it’s like to be a teacher or teaching assistant using a particular strategy, and also what it’s like to be a student learning in that setting. Accompanying documentation provides explanations and pointers to the research-based background related to the strategy being illustrated, as well as resources that were seen in use. The complete collection will include clips from all levels of undergraduate science education, and examples from a wide range of science disciplines, including math, Earth sciences, physics, life sciences and chemistry. Care has been taken to ensure necessary permissions were obtained for public display of the videos, and the collection is licensed under Creative Commons for public, attributed, non-commercial use. We anticipate the collection being useful in a wide range of contexts to help increase the general connectedness, interdisciplinarity and expertise of research-oriented faculty instructors. Individual instructors can use them to visualize what it is like to adopt a particular strategy. Professional development groups could use the videos and resources to illustrate workshop or tutorial topics and as the basis for discussions. Instructors can also point students to these resources to help them set appropriate expectations for courses they are taking.

The complete video collection is at http://blogs.ubc.ca/wpvc/ .
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References

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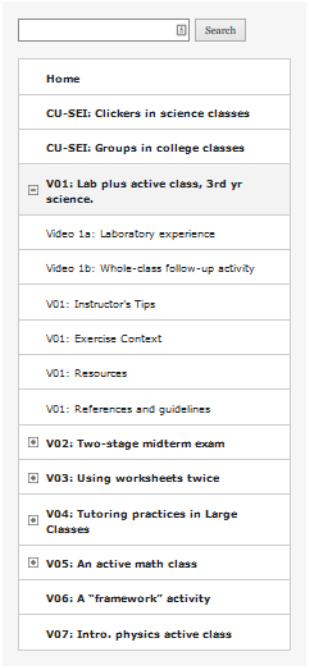
http://blogs.ubc.ca/wpvc/



V01: Laboratory experience

WHEN WATCHING THIS 06:04 min. VIDEO, look for...

5. **Students recognize benefits of hands on work**: hear student feedback in the video's last couple of minutes.

Aspects of logistics to notice:

1. **Setting up the exercise.** Worksheets delivered online ensure consistency so all students do the work and collect necessary results. Then, only 2-3 minutes of introduction time is needed.
2. **Referencing** pre-lab homework; current tasks and resources (handouts, samples, work expectations); follow up homework.
3. **How space and resources are used.** Sufficient space to allow a range of engagement options. No further direction is needed, except warnings when time is running out. Only 50 students at a time are scheduled into each lab session – hence 3 identical sessions for 150

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