

Designing Activities that Enhance Student Learning

Please use this form to describe a teaching activity that you have modified or developed (or will modify or develop) in response to the working group sessions.

Name: Steven Boggs

Role (circle one): Faculty Member

Home Department(s): Physics

Course(s) in which you would use this teaching activity: Physics C10/ L&S C70V

Activity Title: Teaching Physics for the 21st Century

Description:

Please give a short synopsis of the activity and its learning goals, maximum 100 words.

My goal for Physics C10/L&S C70V (Physics for Future Presidents) is to implement a number of teaching technology advances that have yet to be implemented (except sporadically) in Physics courses at Berkeley. These include:

- a) Online textbook and homework system
- b) Class response system (maybe iClicker, researching options)
- c) bSpace forums and chat room

The goals are two-fold: First, to maintain in student enthusiasm/attention through the semester. And second, to increase student-to-professor feedback and decrease the timescale for the feedback.

If this is an activity you have used in the past but now will modify in response to the Working Group sessions, please describe the activity as you previously conducted it:

Almost completely new, except on-line homework which has been used in Physics 7 and 8 for a few years now.

Describe the changes you made or will make to the activity and the reasoning behind these changes.

Despite the large body of research on interactive teaching/learning, very few of these techniques have been implemented in the Physics Department. Most classes are still taught with a lecturer at the blackboard.

Which session(s) of the Working Group influenced the changes you made or will make to this activity? How so?

All of them were very thought provoking. The first that most influenced my thinking were Daniella Kaufer's discussion on neuroscience, which helped me better comprehend how getting students' attention helps solidify learning. The second that influenced my thinking was Martin Covington's discussion on what motivates students, which will help guide me on how to implement these technologies.

How will you assess the effectiveness of this activity in enhancing student learning?

This will be tough since it will be my first time teaching this course. I will need to rely on student evaluations (mid-semester and final) to get a first gauge of effectiveness. More refined evaluations can be implemented in future semesters.

If this is a new activity developed in response to the Working Group sessions, please describe the activity:

Blank

Which session(s) of the Working Group influenced your development of this activity? How so?

See above response

Have you used the activity in the classroom yet? If so, please describe its effectiveness. If not, how you will assess its enhancement of student learning.

See above.