

WebSights features announcements and reviews of select sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at [PhysicsEd.BuffaloState.Edu/pubs/WebSights/](http://PhysicsEd.BuffaloState.Edu/pubs/WebSights/). If you have successfully used a physics website that you feel is outstanding and appropriate for WebSights, please email me the URL and describe how you use it to teach or learn physics—[macisadl@buffalostate.edu](mailto:macisadl@buffalostate.edu).

• **Videos on effective group work and clicker use in physics instruction from the University of Colorado Science Education Initiative and the University of British Columbia Carl Wieman Science Education Initiative**, [STEMvideos.colorado.edu](http://STEMvideos.colorado.edu)

A 15-minute long Flash video vignette describing effective **Group Work in the College Classroom**, including tips for facilitating and assessing groups. The video features physics Nobel laureate Carl Wieman describing research-recommended best practices, different kinds of small group discourse in action, small group whiteboarding, forming groups, classroom management, and interviews with college science (particularly physics) instructors and students as to their rationale and reactions to these instructional techniques. On the same website are also a series of videos on the effective use of clickers and Peer Instruction, as well as links to a free instructor's guide and various resources on clicker use. Submitted by *Stephanie V. Chasteen, Science Education Initiative at CU-Boulder Physics*

• **CoolStuff video replicates the original Faraday motor in your class**, [tinyurl.com/CSFaradayMotor](http://tinyurl.com/CSFaradayMotor)

This video by Arbor Scientific's *CoolStuff* and Joel Bryan of Ball State University substitutes salt water for the original toxic mercury to recreate Michael Faraday's original motor with a 9-V battery, 2-L soda bottle, and some neodymium magnets. Analyzing this motor helps students illustrate and develop basic ideas in electricity and magnetism, and this is the motor that supposedly inspired the apocryphal Faraday response to a politician asking about the utility of the effect: "Someday you can tax it." ([www.snopes.com/quotes/faraday.asp](http://www.snopes.com/quotes/faraday.asp))

From Arbor Scientific's *CoolStuff* electronic newsletter, [www.arborsci.com/coolstuff](http://www.arborsci.com/coolstuff)

• **Educreations Interactive Whiteboard: A free iOS / iPad interactive sketchpad**, [itunes.apple.com/us/app/educreations-interactive-whiteboard/id478617061?mt=8](http://itunes.apple.com/us/app/educreations-interactive-whiteboard/id478617061?mt=8) sketchpad iOS

Recordable whiteboard, can add voiceover (think Khan Academy videos – [khanacademy.com](http://khanacademy.com)), and also can add photos from iOS device camera, then share the resulting Flash files. Quick and easy to use, though you might rapidly want to upgrade to a Wacom bamboo tablet for better input resolution, and oddly enough since the output files are in Flash video format (not HTML 5), the resulting videos can't be played on another iOS device but are readily play- and share-able on most every computer browser supporting Flash video. Nonetheless, a great entry price.

Submitted by *Marilyn B. Gardner, AAPT Director of Communications and Membership*

• **Recent teacher policy reports: ~~First, a familiar voice; then some bad and ugly on teacher pay; and finally the good on teacher impact~~**

– **Building a STEM Education Agenda: An Update of State Action by the National Governors Association Center for Best Practices**, [www.nga.org/cms/stem](http://www.nga.org/cms/stem)

This scholarly policy report describes the goals and importance (particularly economic) of establishing state K-20 STEM agendas, as well as making recommendations for policymakers. State standards and assessments, the recruitment and retention of K-20 STEM faculty (differential salaries, classroom autonomy; early college, online coursework and informal education, and alternative pathways to teacher certification) are all mentioned. Nothing extraordinary, and a nicely informed review with thorough academic literature citations.

– **Chetty, Friedman, and Rockoff (2011). "The Long-Term Impacts of Teachers: Teacher Value-Added and Student Outcomes in Adulthood." A National Bureau of Economic Research Working Paper. Reported and cited at** [www.pbs.org/newshour/bb/education/jan-june12/teachers\\_01-06.html](http://www.pbs.org/newshour/bb/education/jan-june12/teachers_01-06.html)

This final (and scholarly) document by Harvard and Columbia affiliated academics repeats a familiar theme well reported in the scholarly journals: "[I]t is clear that improving the quality of teaching—whether using value-added or other tools—is likely to have large economic and social returns," where by value-added (VA) the authors are referring to adjusted student pre/post-test gains. The study makes clever use of natural experiments caused by teacher staffing changes amongst teachers of over 2.5 million children over two decades to examine the correlation of high value added teaching on students to the economic well being (tax returns, etc.) of these students as adults. The authors even suggest how much parents should pay extra to retain teachers capable of adding value by more than one standard deviation over the mean to their children's VA test scores. Notably, the study cautions that the utility of measuring value added by teachers may be eroded by the recent rise of high-stakes testing, and that "while these calculations show that good teachers have great value, they do not by themselves have implications for optimal teacher salaries or merit pay policies. The most important lesson of this study is that finding policies to raise the quality of teaching—whether via the use of value-added measures, changes in salary structure, or teacher training—is likely to have substantial economic and social benefits in the long run." Another interesting document discussing valuation of good physics teacher pay.

Last report above submitted by *Paul Hickman, Past PhysTec project advisor*

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