

# Notes from the Life Sciences Carl Wieman Science Education Initiative

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## *Stereotype threats*

At a recent CWSEI discussion group the topic of stereotype threats came up. Stereotype threats occur when a gender or ethnic stereotype is endorsed (deliberately or non-deliberately) and this endorsement appears to promote stereotype-consistent behaviour. A number of papers suggest that stereotype threat effects women's performance on math tests when they were told gender may have an influence on their performance. However, stereotype threat was decreased when they were told either that there is no evidence for a gender based performance difference, or that while some people believe there are differences, the main cause for performance difference is individual experience. It is interesting to think about whether and how stereotype threat should be considered when teaching biology.

Spencer, S.J. and Quinn, D.M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology* 35, 4–28

Dar-Nimrod, I. and Heine, S.J. (2006). Exposure to scientific theories affects women's math performance. *Science*, Vol. 314, 435

## *The LS-CWSEI Chemistry Content Project –Part II.*

We recently told you about the Chemistry-Content-in-Biology-Project, which is exploring what chemistry content biology students need. An analysis of the core courses in the Cell Biology and Genetics stream helped us identify a list of chemistry topics that are components of courses in these streams. Now we are looking to extend the project to other Biology courses. To that end we have developed a short survey for all Life Sciences faculty to gain a broader sense of where these chemistry topics are required. The survey is appended to this *Notes*. It is our hope that you could find some time to complete the survey and return it to us. You can return it to Jared Taylor in Zoology, Sunita Chowrira in Botany, or George Spiegelman in Microbiology&Immunology. If you are interested in the project, or if you have noted important gaps in student understanding of chemistry that you think need to be addressed, please contact Jared.

## *The Biology Attitudinal Survey*

The Biology Attitudinal Survey is designed to measure 'novice versus expert' thinking. It contains questions that probe how a person views knowledge in biology. Last fall Gülnur and Tamara carried out a large number of one-on-one interviews with students to develop and validate the survey, which we tested in a number of classes last fall. We are in the process of collecting expert responses and are collaborating on this with the Science Education Initiative at the University of Colorado. In the last winter term, we gave the survey to instructors in all sections of BIOL 112, 121 and 201 and we want to thank all faculty members who participated in the study. The preliminary results of the survey are now available and will be sent to faculty members via e-mail. We will then arrange a joint meeting with faculty who participated in the survey and/or are interested in the survey to discuss how attitudinal survey data could inform our teaching practices.

## **We're around.**

If you're interested in talking to us about your course(s), or teaching /learning, feel free to contact anyone of your LS-CWSEI team: Randal Mindell <[mindell@zoology.ubc.ca](mailto:mindell@zoology.ubc.ca)>, Jared Taylor <[jtaylor@zoology.ubc.ca](mailto:jtaylor@zoology.ubc.ca)>, Harald Yurk <[yurk@zoology.ubc.ca](mailto:yurk@zoology.ubc.ca)>, Gulnur Birol <[Birol@science.ubc.ca](mailto:Birol@science.ubc.ca)>, George Spiegelman <[spie@interchange.ubc.ca](mailto:spie@interchange.ubc.ca)>. You might also check out the CWSEI website for information and resources about teaching/learning: <http://www.cwsei.ubc.ca>.