

Notes from the Life Sciences Carl Wieman Science Education Initiative

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September 8 2008

Special Seminar Notices:

Dr. Dee Silverthorn. September 15, 4:30-5:30. Room 120 Aquatic Ecosystems Research Laboratory (AERL). This is the first of the *Comparative Physiology Seminar Series*.

Adapting to the Interactive Classroom from Faculty and Student Perspectives.

Dr. Silverthorn is visiting from the University of Texas at Austin's School of Biological Sciences. If you would like to meet with her please contact Trish Schulte (pshulte@zoology.ubc.ca)

Pamela Kalas. September 18, 2008. 12:00-1:00 Life Science Centre 1510.

Assessing students' knowledge and skills for purposes other than assigning a grade: problems, challenges and possible solutions.

Ms. Kalas is a candidate for a LS-CWSEI Science Teaching and Learning Fellow position. If you would like to meet with her contact GBS (spie@interchange.ubc.ca).

What we are up to this fall:

1. Student Satisfaction and Skill Development Project.

Harald and Gülnur are continuing the 'Student Satisfaction and Skill Development Project'. The goal of this project is to determine whether the current curriculum a) satisfies the learning needs based on career aspirations of students with a variety of interests and background, and b) provides the skills that potential employers of biology and life science graduates are looking for in an applicant. In phase 1: they are conducting group interviews with 4th year students and the results will be used to develop a survey for the spring of 2009. They are also interviewing employers investigating their expectations for applicants for an entry-level biologist position in their company.

2. 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 to develop a common set of questions. 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. We are requesting participation again this fall.

3. Learning Outcomes Projects.

Botany and Microbiology and Immunology have both embarked on "learning outcomes" projects to get learning outcomes for all courses. Randal is available to work with faculty in Botany and George is available to help in Microbiology and Immunology.

4. Investigations of Attitudes and Conceptions of Students in Botany: BIOL 209.

Randal is beginning a project with BIOL 209 (Introduction to Non-Vascular Plants) with Mary Berbee and Patrick Martone. This fall he will be interviewing students to assess their attitudes towards the course and towards the methods of teaching life cycles in particular. A broader goal of this investigation is to begin to identify and collect misconceptions about plants and fungi.

5. The Learning Groups and Invention Groups in BIOL 112.

We are continuing a project in BIOL 112 about the benefits of active-learning activities looking at two formats. The "Learning Groups" are weekly 50-minute sessions in which 3-4 students work through a structured series of questions based on the current lecture material. The "Invention Groups" are also weekly 50-minute sessions, in which groups of students approach an abstract problem whose basis is reflected in concepts presented in lectures. Scores of students on exams will be compared to look for effects on learning.

6. Results and presentations.

- a. Jared, along with Beth Simon (another STLF), submitted a paper based on work done at UBC examining how students use learning outcomes. They will report on the results at the Teaching and Academic Growth Learning Conference. The 2008 UBC Learning Conference will take place on Thursday, October 2, (check out <http://www.tag.ubc.ca>)
- b. Gülnur and Tamara Kelly will be attending the International Society for the Scholarship of Teaching and Learning Conference in mid October presenting their work: Tamara Kelly, Karen M. Smith, Gulnur Birol, George Spiegelman. *Implementation of a first year biology learning group pilot study.*
- c. Gülnur will also be present abstracts based in part on other collaborations she has been involved with faculty at UBC.
 1. Gulnur Birol, Kathy Nomme, Jennifer Klencz, Sandra Keerthisinghe. *Findings of the Impact of a Non-majors First Year Biology Course on Students: Attitudes Towards Biological Sciences.*
 2. Gulnur Birol, Joanne Nakonechny, Ellen Rosenberg, Lacey Samuels. *How do cell biology students learn effectively?*
 3. Kathy Nomme, Gulnur Birol, Jennifer Klencz, Sandra Keerthisinghe. *Development of a SoTL Project on the Assessment of Students: Attitudes Towards Biological Sciences in a Non-majors First Year Biology Course.*

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>, Jared Taylor <jtaylor@zoology.ubc.ca>, Harald Yurk <yurk@zoology.ubc.ca>, Gulnur Birol <Birol@science.ubc.ca>, George Spiegelman <spie@interchange.ubc.ca>. You might also check out the CWSEI website for information and resources about teaching/learning: <http://www.cwsei.ubc.ca>.