Evening Science and Math Division Meeting

Notes

Dec. 2, 2015

Present: Dave Berque, Steven Bogaerts, Bridget Gourley, Jeff Hansen, Doug Harms, Anne Harris, David Harvey, Carrie Klaus, Alex Komives, Sarah Lee, Rich Martoglio, Jim Mills, Melissa Petreaca, Selma Poturovic, Pam Propsom, Mamunur Rashid, Jackie Roberts, Henning Schneider, Daniel Scott, Maria Schwartzman, Brian Wright

Jim Mills (FDC) started with some announcements. If you might be interested in being an organizer for a summer workshop on Power, Privilege, and Diversity, contact him. Two new grant programs are beginning:

1. Faculty Triad Grant--3 faculty members collaborating in the spring to talk about developing a new course or revising a course, with a course online in the fall.
2. Faculty Innovative Grant—For 1 or 2 faculty members to develop some kind of project that has something to do with Power, Privilege and Diversity. This might be an interesting opportunity to develop something focused on underrepresented students in STEM.

Bridget reminded us that she sponsors a student group of Underrepresented in Science; she’ll be on sabbatical next year so if someone is interested in taking this on, contact her.

Jackie recapped some divisional activities:

1. Jackie, Pam, and Michael Roberts revised and resubmitted their NSF-IUSE grant.
2. A group (Jackie, Pam, Dana Dudle, Gloria Townsend, and Renee Madison) submitted a HHMI grant pre-proposal. This round is focused on “Inclusive Excellence.” We’ll find out in the spring if we’re invited to submit a full proposal.
3. ACS attitudes survey was given in pretest-posttest format last fall and again this fall.
4. TOSLS is being used to assess incoming and exiting students’ scientific literacy skills. Did this last year and are doing it again this year. Also have some survey data from incoming students about how many science and math courses they plan on taking and what their intended major might be.

We looked at data from our incoming first-year students and graduating seniors’ TOSLS scores. Overall, it doesn’t seem like seniors score much differently than first-year students. (Can we put error bars on these means?—sure.)

There were graphs of TOSLS performance by gender, domestic students of color (DSOC), first-generation students, and science vs. non-science majors. People discussed the data at individual tables. (There is a lot of overlap between DSOC and first-gen; is there a way to separate these out in an analysis?--yes. What about international students?)

Observations? No difference by gender. Science majors perform better than non-science majors, but what would we consider a “successful” score? Also have a potential selection issue (maybe majors were stronger in science upon entering and that’s why they chose the discipline). Did science majors take the test more seriously than non-majors? (How does DePauw define “first-generation” student?) It looks like we are not serving DSOC and first-generation students very well in their science education. (Analyses by DSOC *and* science majors? What about performance for first-year DSOC?)

We had senior TOSLS performance data by major (need to have a total score for each major). There was active discussion at the tables regarding these data. We plan to give these data to all department chairs in case they would like to discuss this in their departments. Might be good to have a discussion about whether each department values these skills and if so, where are students getting them, how are we addressing them in our classes or in students’ other experiences. (Add a question at the end about how seriously they took the test.)

Might be interesting to see who we *don’t* have in the data (by student ID—who’s skipping out on the test).

Might this be interesting to share the data with *all* chairs, even those outside of the sciences.

Ideas for topics for this summer’s workshop? Power, Privilege, and Diversity and changing pedagogy in science. “Inclusive pedagogy in the sciences” is a good key phrase to use.

Finally, shared some data that we had already presented at a recent Brown Bag lunch regarding student success in our introductory courses (success was defined as a C or above in the course, compared to C- or lower or withdrawal). Analyses by gender (not much difference, and if there is one, males doing slightly less well). Then by first-gen: in every science department, first gen students aren’t as successful. Then by DSOC: even more dramatic performance gaps. (What about this analysis by all departments: is this a *science* issue or is this an effect across the board in all departments?) Are there demographic or other factors that we can examine to see what helps or leads some students to be more successful than others (e.g., are they on an athletic team?). We can share these data with department chairs as well, identifying their own department. (Is there any way to capture the number of students who drop as opposed withdraw from courses?)

Jackie also reported an interesting observation. Econ 350 (Statistics for Econ & Management) now counts as an SM course, so this means Econ majors could complete their DePauw education without ever taking a science course, just with Calculus and Econ Stat.