Science and Math Brown Bag

Meeting Notes

Feb. 11, 2016

Present: Lynn Bedard, Sharon Crary, Dana Dudle, Hilary Eppley, Bridget Gourley, Jeff Hansen, Wade Hazel, Matt Hertenstein, Jeane Pope, Selma Poturovic, Pam Propsom, Jackie Roberts, Fred Soster, Zhixin Wu

Topics

--Coordinating class times (SOC). It might be a good idea if Science and Math chairs communicated to better coordinate course and lab times so students can take multiple science/math classes and get the courses they need.

--SM Learning Goals. We would like people to integrate the shared divisional learning goals into their courses and syllabi (Jackie and Pam will get these posted to the WISER website so that they are more easily accessible).

--Inclusive/culturally responsive teaching. What can we do to make our introductory science and math courses more inclusive and increase student success? Could have a place at the *WISER* website specifically for inclusive teaching resources in science and math (e.g., OXIDE at Georgia Tech).

--Textbook prices. Pam checked out Eli’s bookstore today and found that it was rare to see an intro science and math textbook under $250. This creates an economic hardship for students, especially those who are already disadvantaged. We suggested this as a topic for a future Brown Bag. Maybe invite Dave Berque and Rick Provine or Tiffany Hebb to talk about alternatives (e.g., free online resources). Other suggestions for coping with the problem included user older editions of the books or having the library buy a copy of the book and then putting it on reserve for students to use.

We discussed the Haak et al. (2001) *Science* paper (“Increased structure and active learning reduce the achievement gap in introductory biology”). One person summarized the main takeaways as: all students improved with active learning and increased course structure, but the performance gap between disadvantaged students and “majority” students was most greatly reduced in high structure courses.

A point brought up in our discussion was how we make sure that students transition from these highly structured courses to become more self-regulated learners in the upper-level courses. Jeane mentioned another paper that found that active learning *per se* does not improve learning across the board; it has to be done well. A lot of faculty think they’re using active learning, but our self-perceptions are not always accurate. A couple of people suggested that it’s scary to think about creating a “high structure” class (as defined in the paper: no lecture, extensive group work in class). One person asked whether domestic students of color (DSOC) feel alienated or marginalized in these groups. One response was that it may not be perfect, but is probably better than what currently exists in many classes. Dana shared that every week she randomly assigns students to *different* lab groups and this has worked remarkably well. A final comment was that this study/paper was at a large institution with very big classes—does this translate directly to the different type of environment at DePauw?

Announcements

--Jackie announced that we plan on having a three-day science and math teaching workshop in June. The intent would be that people could leave the workshop with a course and syllabus transformed. Melanie Cooper (Chemistry, Michigan State University) would be the facilitator one day on the topic of reducing content without reducing learning. The plan is for the second day to be someone on inclusive teaching (someone suggested that in light of the paper we just read, it would be good to have a facilitator with more experience at a smaller school like ours). The third day would occur at a later time, when people have had time to make the changes to the syllabus, and would be a way to hold people accountable to their peers, really making the changes.