SM Liaison Meeting

8/25/16

Present: Dana Dudle, Mary Kertzman, Pam Propsom, Jackie Roberts, Maria Schwartzman, Fred Soster, Brian Wright

Jackie and Pam provided the agenda/announcements below:

IUSE grant. We (Jackie, Pam, and Michael Roberts) received the IUSE Grant! Goals:

1. Transition our emerging learning community into a genuine learning community (continue Brown Bags and divisional meetings, institute reading and pedagogical research groups)
2. Transform general education STEM courses using evidence-based practices
   1. 3-day summer workshops to which faculty from nearby institutions will be invited, using their schools as comparisons for our process (individuals, departmental teams, interdisciplinary teams)
   2. Curricular Reform Awards for faculty to revise their intro courses (30; $750 for attending workshop and $500 for revised, completed course/syllabus; liaison group makes funding decisions) or develop team-taught interdisciplinary courses (e.g., Paradigm Shifts; $1250 for workshop and summer course development, 0.5 teaching credit-1 group of 4 faculty next 3 semesters and 2 groups of 4 in fall 2018)
3. Assess—work with administration to make science and math attitude and literacy assessment a regular occurrence

HHMI *Inclusive Excellence* grant proposal.

Inclusive, student-centered teaching practices (workshops, team grants)

More genuine research experiences in introductory laboratories

The Peer STEM Guide program (successful students serving as mentors/tutors to students in intro SM courses)

Creating community and science identity among STEM majors

Focus groups with students to learn about their experiences in DePauw SM classes

Divisional goals

Improving SM gen ed. We have tentatively agreed on divisional learning goals, but what evidence do we have that they’ve really been adopted? Has instruction and student experience in the courses really changed? How do we move to implementation, getting more faculty on-board? If we believe it will help meet our divisional gen ed goals, how do we change our SM gen ed requirement? What about a math/Q learning goal that parallels the other divisional learning goals?

Divisional meeting

Brief update on IUSE

Share ideas for HHMI and get feedback

Plans for the future?

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During the meeting we discussed the following:

IUSE. Because we were informed so late about receiving our IUSE grant, we may request a one-time no-cost extension so we can delay start of some parts of grant and lengthen the time period. We would like to use the liaison group to help us determine workshop dates, guidelines and call for Curricular Reform proposals.

HHMI grant proposal. One of our proposed strategies is “more genuine research experiences” in intro labs—what does it mean? Lots of variety: working on the faculty member’s research, allowing students to develop their own hypotheses with a certain data set, working on a project and contributing to a national data base (e.g., SEA-PHAGES). Could be different for each department, not necessarily every lab in a course. Brian Wright and Kinesiology are already doing some of this; Brian tries to give students some training in how to work in groups (this would be a good topic for a Brown Bag lunch).

Concerns/Questions. Some of this seems moot given that our students are not required to take a science lab course to meet their general education requirement. Lab courses seem an excellent way to get students to enjoy science, if we do it the right way. Do we need a third divisional learning goal that addresses math and Q? What about a requirement that students need two science courses and one math-based course? There are courses outside the science and math division that count as an SM gen ed requirement: Stats for Econ and Management (Econ 350) with 2-3 sections a semester, Logic (Phil 251) with 2-3 sections a semester, and Human Origins (Anth 153) with one section a semester. Theoretically, a student could graduate by talking Calc and Econ, and never taking a science course. The time might be right to change graduation requirements, for a variety of reasons (e.g., some discussion about separating Arts from Humanities). We don’t know what people are doing in their courses—how do we know what people are doing to meet these scientific literacy goals? Should students take two different kinds of SM courses so that they complement each other and meet different SM learning goals? We would propose that one of the criteria for getting one of the IUSE Curricular Reform grants is demonstrating how your course will meet the divisional learning goals.

Given that Winter Term can now count as .5 credit, it seems like the university needs to increase the number of credits required for graduation.

If we want to propose reinstating the lab requirement for SM gen ed, we believe we should make a philosophical argument: labs make science more accessible and interesting to *all* students (especially those with weaker preparation, underserved students). More active instruction leads to better student learning.

If we had a lab requirement we would need to set criteria for faculty instruction: students have to use and experience the “scientific method” in at least some of the labs for the course. Having a lab requirement for SM gen ed will ensure that students will take at least one science course. Could departments agree to be more “strategic” about their placement of Q on courses (forcing students to take classes elsewhere or additional courses)?

Could we bring David Asai to campus to talk about the value of introductory lab experience?

Focus of the semester: Rolling out the IUSE grant and getting departmental buy-in to ideas in the HHMI proposal. With funding from IUSE (0.3 million) and potential funding from HHMI (1 million)-both of which focus on active-learning (which could include lab), we need to propose a change to the gen ed requirement asking for the addition of a lab requirement to the SM designation.

Future Meeting Date on Friday’s from 3-4: (not 9/16 or 9/30)

9/23