



Faculty Center for Teaching

Grant Report for Academic Year 2018 – 2019

Pedagogical Learning Community: *Maximizing Learning: Lessons from Cognition*

To better align with emerging trends at college and university teaching and learning centers nationwide, the Faculty Center for Teaching piloted the pedagogical learning community, *Maximizing Learning: Lessons from Cognition*, in AY 2018 – 2019.

This learning community examined current literature on teaching and learning from the viewpoint of cognitive science, considering the processes involved in memory, attention, language, perception, reasoning, problem-solving, and learning. The group was co-convened by Alexandra Frazer (Psychology) and Brett Fadem (Physics).

In total, twelve faculty and staff participants were involved in these conversations, with each contributor receiving a stipend of \$300.

Note: In order to financially support the learning community pilot, FCT had to temporarily suspend funding for the *Small Group Pedagogical Grant* program this year. The FCT Board will continue to rethink such budgetary allocations moving in order to optimize opportunities for meaningful faculty and staff development.

Pedagogical Development Grants Awards for Summer 2019:

The FCT Board awarded 4-week pedagogical development grants to Erika Bagley & Stefanie Sinno (joint award), Adam Clark, and Erika Iyengar. Amelia Moreno and Sherri Young will each receive a longer-term pedagogical development grant.

- Drs. Bagley and Sinno will work to reframe the regularly-offered *Child Development* course (that they alternate teaching) to address identified pedagogical issues related to diversity and student engagement. With an eye to helping students understand and engage with children's diverse lived experiences, they intend to move away from a traditional lecture format to include flipped classroom strategies and digital storytelling using resources such as the NJH-NSF-sponsored, web-based library *Databrary*.
- Dr. Clark proposes to fully weave team-based learning into his *General Physics I* and *General Physics II* courses. In addition to creating a full suite of videos for flipped classroom pedagogies and accompanying problem sets for in-class use, Dr. Clark will examine what effect the combination of team-based strategies and flipped lectures has on student learning using standardized instruments such as the Force and Motion Conceptual Evaluation (FMCE) and the Conceptual Survey of Electricity and Magnetism (CSEM).

- Dr. Iyengar proposes a major overhaul of *BIO-150: Principles of Biology I* to more effectively implement group work and promote out-of-classroom learning. This project aligns with on-going department conversations about reframing the 3-course *Principles* sequence. Dr. Iyengar's proposal has four major threads: paring down content covered and using case studies to stress applications, introducing more active learning exercises in class, using flipped classroom techniques to convey more basic information, and altering the existing multi-class project to become more of an independent research experience.
- Professor Moreno's project focuses on the *Spanish for Heritage Speakers I* and *II* courses (SPN-202 and SPN-303) and will culminate with producing an on-line workbook for classroom use. Now that both courses have been offered once, Professor Moreno argues that significant changes in approach and revisions to the structure of the course are in order. She will work to identify content-based instruction recommendations and will adapt them to the three key parts of this two-course sequence: grammar and vocabulary, interpretive and presentational modes of communication, and culture and literature. Sensitive to the price of materials for this specialized student, the last portion of her project will be devoted to creating on-line course activities in a workbook format to complement the new pedagogy.
- Dr. Young's grant will support her reimagining and restructuring *Organic Chemistry I* and *Organic Chemistry II* to both incorporate biochemistry content and improve student learning. First, Dr. Young will focus on breaking away from the traditional framework where functional groups are taught in separate modules with little to no reinforcement. Instead, she will organize the course to introduce multiple variations of the same reaction type at once and then follow up with exercises and activities to better solidify these concepts and applications. Second, she will work to bring the courses into alignment with recommendations from the American Chemical Association and the Medical College Admission Test by adding content modules focusing on biochemistry. This aspect of the project will require the creation of new exercise sets and laboratory activities, not to mention content-knowledge acquisition on the part of the instructor. She has a department-approved assessment plan in the works for when the courses are offered under this new structure.

Travel Grants (\$500 per participant):

- Erika Bagley (Psychology): to attend the Society for Research on Child Development conference in Baltimore, MD and to present a poster as part of the pre-conference Teaching Institute titled *Teaching about Development and Poverty: Challenges and Ideas about How to Address Them*.
- Tineke D'Haeseleer (History): to present at the *Domains 2019: Back to the Future* conference organized by Reclaim Hosting in Durham, NC. The paper is based on the *Bergbuilds Domain of One's Own* initiative to support the development of an open pedagogy, and to increase students' engagement with the course materials by having them share their work (and learning) in a digital space.
- Eugene Fiorini (Mathematics) & Gail Marsella (Chemistry): to attend the annual conference of the National Center for Case Study Teaching in Science in Amherst, NY. Participation will

inform their development of forensics activities for the classroom use that demonstrate practical applications of mathematics and science, offer forensic-themed workshops for high school and middle school students, and develop an undergraduate forensics textbook that emphasizes mathematical and scientific applications.

- Mohsin Hashim (Political Science): to present the paper *Teaching Climate Change and Sustainability Abroad: Reflections on a Short-Term Study Abroad Course in Bangladesh* at the Annual Conference of the Western Political Science Association in San Diego, CA.
- Roland Kushner (Accounting, Business, Economics and Finance): to attend the Association of Arts Administration Educators conference in Madison, WI, to chair a panel and present on the artistic programming decision process using ordered weighted average and voting methods.
- Richard Niesenbaum (Biology): to present at the *Domains 2019: Back to the Future* conference organized by Reclaim Hosting in Durham, NC. The paper addresses using a Domains focus to enhance integrative learning and global perspectives in sustainability studies, and the ways that Muhlenberg faculty are linking Domains to pedagogical formations that actively imagine and invent new possibilities for ourselves and the students we teach.
- Stefanie Sinno (Psychology): to attend the Society for Research on Child Development conference in Baltimore, MD and to present a poster as part of the pre-conference Teaching Institute titled *Teaching about Diversity in Family Engagement through Community-Based Research in an Undergraduate Course*.