

INNOVATION AGENDA: TEACHING

Teaching with Technology Fellows 2013-2015

February 2015

A Successful Donor-seeded Pilot with Real Impact

Launched with a gift of \$500K, 59 faculty in the Teaching with Technology Fellows (TTF) program redesigned over 40 face-to-face UW courses to online or hybrid formats that have enrolled over 5000 students, to date.

The program put learning first and technology second. With training and support from pedagogy and technology experts at the Center for Teaching and Learning and UW-IT's Learning Technologies, faculty fellows employed innovative, evidence-based approaches to course redesign and selected technology tools to support learning goals. They engaged in regular review with TTF peers and shared out with colleagues beyond the TTF.

The TTF program is part of the UW's Innovation Agenda and has impact that extends well beyond the redesigned courses. It is helping to change the campus culture around teaching, learning, technology and innovation. Fellows redesign their other courses and tell colleagues about the experience, which leads to new collaborations and partnerships. A recent survey of faculty fellows clearly showed this rich and lasting impact.

A Transformative Experience for Faculty

Faculty fellows were emboldened to make changes to their teaching, innovate in their classrooms and try new approaches.

- **96% are teaching differently in all their classes**, not just the TTF redesigned class.
- **78% have continued to seek out new ideas for teaching improvements** and have made further changes to their classes or teaching.
- **100% saw improvements in their ability to use technology** to meet learning objectives.
- **65% "flipped" their course**, meaning students watched video lectures or did research, reading or assignments online, freeing up class time for active learning through group work and problem-solving.

A Ripple Effect from TTF Fellows to UW Faculty

The 59 fellows shared their experiences with peers in formal settings, as required by the program. Most also

TTF BY THE NUMBERS

- **59 faculty** fellows
- Over **40 classes** redesigned
- **25 departments** represented, from Accounting to Fisheries, English and Medicine
- Over **5000 students** enrolled in TTF redesigned courses
- **3 TTF cohorts** in Summer quarters 2013 & 2014
- **1 TTF mini-cohort** in Summer 2014 to promote innovative learning in Medical Education
- **1 week** of intensive TTF workshops with
- **365 days** of IT support for participants

became an informal point person within their departments for questions about teaching and learning with technology. As a result, more UW faculty are inspired to innovate in similar ways and seek additional opportunities to learn more about teaching and learning.

- Fellows **shared out with over 2000 non-fellow faculty.**
- **Over 370 colleagues asked fellows for advice** on teaching with technology.
- Approximately **200 non-fellow faculty have expressed interest in a future TTF.**

Measurable Impact on Student Learning and Engagement

Faculty fellows report that student achievement, engagement and satisfaction in TTF redesigned courses have increased considerably. Students are talking more in class, engaging in group discussions and projects, solving harder problems, asking better questions and demonstrating advanced critical thinking skills.

- **91% of fellows saw improvements in student engagement and achievement.**
- **Exam averages jumped from 64% to 73%** in one Chemistry course—a jump of a whole grade when comparing the redesigned course to prior years.
- **Student retention and success** are dramatically impacted to the extent of making the difference between college completion or acceptance into a competitive major.
- The TTF program encouraged fellows to engage in “active learning,” which has been shown in national studies to increase student achievement, with **even greater increases for underrepresented minority students.**

Benefits the UW as a Whole

The UW is experiencing positive culture change, moving towards innovative teaching and learning supported by technology. The TTF program served as a major catalyst by creating a cohort of change-makers and influencers. It also showed the power and potential of technology to engage students while freeing up valuable class time, and classroom space, for more active learning.

- **The ripple effect will continue to grow** as TTF fellows teach even greater numbers of students in years to come, redesign additional courses and consult with even more peers.
- **Positive impacts on student retention and completion** are anticipated as students in redesigned courses succeed where they might have failed otherwise.
- The 40 redesigned courses **freed up 40 classroom hours per week.**

Next Steps for Innovative Teaching

The TTF program was a success both in the specifics of catalyzing transformative teaching and in creating a successful model for instructor development. While the pilot has ended, the UW is inspired to build on the success of the pilot to broaden the impact and increase the number of innovative instructors on campus in the following ways:

1. **Tap TTF participants to be innovative teaching “evangelists,”** sharing their work at faculty development events and with colleagues. (Already under way.)
2. **Include international university partners** in a modified TTF through the Association of Pacific Rim Universities.

Faculty Perspectives and Success Stories

Stefan Stoll (Assistant Professor, Chemistry) documented significant impact on learning in his redesigned Chemistry course. Data showed that his students watched online videos he created to accompany the course, including late at night and on weekends. Exam averages increased from 64% in the prior year to 73% in the redesigned course. Student responses on surveys showed they were more aware of what they knew and what they didn't yet know, and Stoll noticed they were more articulate in office hours. Stoll reports his own skills grew, too. He is better able to make high-quality screencast videos to meet his learning goals and "increase student accessibility, address student diversity and personalize each student's learning experience."

Kate O'Neill (Professor, Law School, & Chair, Faculty Senate) redesigned her Contracts class as a "flipped" hybrid course. What she then did with in-class time illustrates how the TTF Institute sparked teaching innovations. O'Neill asked half the class to enact a version of "The Merchant of Venice" to demonstrate cross-cultural, religious and ethnic conflict in legal contracting. The other half conducted a "Fred Friendly" seminar, exploring the ramifications of Hershey's supply chain contracts that rely on cacao produced by child labor in Ghana. For her redesigned class, O'Neill won a teaching award for best small section seminar. She says, "The course's 'flipped' model was inspired by the TTF workshop and my interaction with the other faculty, who gave me great ideas. The tech support gave me confidence that, as a non-digital native, I lacked. I used to use class time to lecture or ask questions of my students. Now, students use the class time to solve problems that I design. I'm a facilitator, not a 'teller.'"

Kathleen Mulligan (Assistant Professor, Oral and Maxillofacial Surgery) switched from what she calls "solid, one-way lecturing" to asking students to engage in small group activities in class and do out-of-class worksheets on pre-class readings and videos—worksheets that serve as study guides for a national standardized exam. "This has revolutionized my thinking about teaching," shares Mulligan. "Using technology means I can shift easier stuff to online learning, then probe for understanding face-to-face and help correct misconceptions, thus using my time for much more value-added work. The class worked in groups, solving problems and then reporting back. It was jaw-dropping how much of their understanding and misunderstanding was thus revealed—and I had a chance then to redirect and assist. In class, the engagement was 100% better than previous years. The energy in the room is just fantastic."



Ralina Joseph, Faculty Diversity Scholar and Communication faculty member, consults with Tyler Fox, Instructional Technologist at UW-IT, on how best to engage her students in an online environment. The popular Black Studies course she transformed is a key offering in support of the new UW diversity requirement.



The institute was the first course of any kind held in a new Active Learning Classroom and served to pilot use of the collaborative technology-enhanced space.