INNOVATORS AMONG US: USING TECHNOLOGY TO ENGAGE STUDENTS

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Faculty and staff at all three University of Washington campuses are using their experience with recorded lectures, online discussions, and other teaching technologies both to improve learning for their students and to serve as resources for other faculty. "You get a handful of users in an academic unit who start to work together and then they create best practices that are disseminated to other folks in the department," says Phil Reid, Professor of Chemistry and Associate Vice Provost, UW Information Technology (UW-IT), Academic Services. This report highlights the work of innovative faculty and staff working collaboratively to engage students through use of technology in face-to-face, hybrid, and online courses.

In all cases, the faculty profiled here put learning first: focusing on a learning goal and then determining which technology tool could help them best to reach that goal. Some find creative ways to use video, lecture capture, and Active Learning Classrooms in Seattle's Odegaard Undergraduate Library. Others give careful consideration to guiding online discussions, replace traditional papers with digital assignments, run complex simulations, and ask students to act like professionals. Many share digital materials and expertise with colleagues department-wide. These faculty represent only a fraction of the excellent teaching at UW's three campuses. For more profiles, see other reports in the Provost report series on "Trends and Issues Facing Higher Education."

"When faculty ask me, 'Which lectures should I flip?' I always ask, 'Is there a lecture that you hate to give? Flip that one,'" says Tyler Fox, Instructional Technologist, UW-IT Learning Technologies (above, right) at the 2014 Teaching with Technology Fellows Institute with Ralina Joseph, Associate Professor, Communication.

Featured Faculty & Staff

Lynn Hankinson Nelson

Butch de Castro, Salem Levesque

A.J. Boydston, Jasmine Bryant, Colleen Craig, Phil Reid, Stefan Stoll

Dian Million

Sean Munson

Colleen Dillon, Miriam Hirschstein, Gail Joseph, Susan Sandall

John Wilkerson

Christine Stevens

Kim England, Susan Kemp, Margaret O'Mara, Thaisa Way

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UW Cities Collaboratory: Replacing the five–page paper with online exhibits so students become authors

"I see grad students in our department engaged and entrepreneurial, asking not just 'How can I learn this tool?' but 'How does using this tool change the questions I ask and the answers I discover?' That's the great promise of digital scholarship and teaching, that you can present evidence in ways that lead you to new discoveries."

MARGARET O'MARA
Associate Professor, History

"This kind of digital scholarship allows us and our students to understand place, environment, and urban change through multiple layers and multiple connections that you can't get off a flat page."

SUSAN KEMP
Associate Professor, Social Work

Margaret O'Mara's urban history students used to write a five-page research paper that only she and peer reviewers read. But when she most recently taught The City (HSTAA 208), the students' work was posted on a public website, available to anyone interested in Seattle history. Students learned that they could become authors who drew new insights from source documents. "You learn history in 4th grade," says O'Mara, winner of the 2014 Distinguished Teaching Award for Innovation with Technology. "You produce history in college."

Each of O'Mara's students created a multi-media blog post detailing the history of a single block in the South Lake Union neighborhood of Seattle. "The students did as much work as they would have for a paper, in some cases more, with more enthusiasm and often better results," says O'Mara. "They took ownership. They'd talk about 'My block this, my block that.'"

The student work was posted in the Lake Union Lab, part of the UW Cities Collaboratory, an interdisciplinary effort led by O'Mara, History; Kim England, Geography; Susan Kemp, Social Work; and Thaisa Way, Landscape Architecture. Classes taught by Way and England have also posted exhibits in the Lake Union Lab, and additional courses are planned for 2014–2015. The team is mentoring an interdisciplinary group of graduate students in a project to research the history and changing geography of North Lake Union neighborhoods.

The UW Cities Collaboratory is an experiment in collaborative research and teaching among the more than 100 UW faculty who study and teach about urban issues. "In addition to serving the students in our classes, the Collaboratory is also proving to be a great platform for research and scholarship," says Kemp. Here is some of the team's advice for managing digital projects:

Budget time for start-up challenges: "When engaging in new technologies in the classroom, a range of unanticipated issues arise," says England. The complex website presented a host of technical issues, as well as some academic challenges. Because students' work is public, the team must hold them to higher standards for attribution and other issues than they would for a traditional final paper. "Our students' research is now reviewed in ways never possible before, which is both exciting and intimidating. We need to develop new ways of curating materials for accuracy, appropriateness, and usefulness," says Way.

Bring in speakers who are experts in digital skills: Guests in Way's classes included an expert on sound environments, who taught students not only about the technology of recording and mixing sound, but also a little about how to listen. "He went out with us into the city and taped places that we thought were quiet," says Way. "And then we played back the tapes and realized how noisy these spaces really were. We also learned how illiterate we were about sound, that we couldn't tell the difference between the sound of the wind and a passing bus."

Find technical support: "Teaching with technology requires more human power than less. So it's really important to have your village around you, to have that support," says O'Mara. Technical support, both from UW Information Technology (UW-IT) and IT staff in their home departments has been critical, according to the team. The History Department provided TA support in the quarter prior to the course to create a tutorial for the web platform, and scan historical documents.

Be willing to experiment with technology: The team started with the digital platform Omeka for class projects and is now adding another platform, Scalar, that facilitates research collaboration and deep annotation. The Simpson Center provided training in Scalar, as well as support for faculty and students to attend the Digital Humanities Summer Institute.

Develop protocols for use of materials from archives and other sources: Team members realized that they needed to help students learn to trace the source and ownership of seemingly anonymous images and resources found online. They are developing protocols for citing sources to help students gain an understanding of professional practices in research, "what attribution and authorship mean," says O'Mara.

Curate and promote student work: O'Mara is grateful that once her students' site began to

"To me, learning always engages student initiative. That means in good teaching you should always get to a point where you're not sure where the students are going to go, what connections they're going to make."

THAISA WAY
Associate Professor, Landscape Architecture

draw media attention (see Resources), the History Department paid for a research assistant to improve the presentation of student work by editing site content and creating an interactive map on the landing page.

Allow students who don't want their work posted publicly to opt out: The default for O'Mara's class was that students' work would be public, but she offered an option that students could, with no impact on their grade, request that their work be visible only to the class.

Know your metadata: As the team worked with the technology, they realized the possibilities for using metadata, the information attached to every digital file. For example, geocodes in the metadata of photos allow them to be linked to interactive maps. "The good news is that photos students take on their phones include geocodes," says O'Mara. Unfortunately, files for historical photographs do not. The team is developing a protocol for confirming or adding geocodes before new images are posted, as well as site standards for all types of metadata, which will facilitate searches and the ability to link and annotate site resources.

Assign projects that meet community needs: The teaching team decided to research neighborhoods undergoing rapid change, to document issues such as the historical sources of industrial pollution in Lake Union, and current social stresses such as those caused by loss of affordable housing. Another key decision was that students should present their findings in ways that community members could easily understand, for example by describing issues without disciplinary jargon and illustrating findings with clear infographics. Students interested in research need to become familiar with visualization technologies and learn how to work with designers, so their findings on critical urban issues are accessible, says Way. "Then you can start talking to community groups and explaining complex issues in a way that makes sense and encourages engagement."

Resources: Article on Lake Union Lab student histories: Robin Lindley, "Cities are the Living Embodiments of Past Decisions," *History News Network*, 22 April 2013.

"There's a long tradition in geography of having students get out into the city to smell it, taste it, experience it. Now my students can share that experience online by taking photographs and recording sound, and linking those sights and sounds with census data and historical maps."

KIM ENGLAND
Professor, Geography

Above, a team of graduate students are studying both the north shoreline of Lake Union and its "blue space," submerged lands and the lake's waters, to develop an interactive exhibit for the UW Cities Collaboratory. Pictured here at Waterway 15 in summer 2014, the team has also supported the development of digital tools for teaching and helped curate undergraduate and other Collaboratory exhibits. Left to right, Jennifer Porter, Geography; Odessa Benson, Social Work; James Thompson, Architecture; Eleanor Mahoney, History; Megan Brown, Geography.

Teaching with Technology Fellows

Seven of the faculty featured in this report participated in the 2013-2014 Teaching with Technology Fellows (TTF) program, redesigning their courses with training and support from pedagogy and technology experts at the Center for Teaching and Learning and UW Information Technology (UW-IT) Learning Technologies. The TTF program was based on the philosophy that technology is not an end in itself, but an entry point to new ways of teaching that can engage students both face-to-face and online. Overall, 59 Fellows from 25 departments redesigned more than 40 courses (in which more than 5,000 students are enrolled), first determining which evidence-based pedagogies would best help their students learn, and only then selecting an appropriate technology tool or platform to meet their goals. They received ongoing IT tech support to assist in first offerings of the revamped courses and met throughout the year with TTF peers. They then shared their experiences with faculty outside the TTF program. The result was an increase across the UW in innovative teaching. TTF participants featured in this report are: A.J. Boydston, Colleen Craig, Colleen Dillon, Miriam Hirschstein, Dian Million, Lynn Hankinson Nelson, and Stefan Stoll.

Resources

The Center for Teaching and Learning: The Center for Teaching and Learning offers workshops and Faculty and Professional Learning Communities (FPLCs), as well as extensive resources on teaching with technology, active learning, large lecture instruction, and flipping the classroom.

UW Libraries: Resources at Odegaard Undergraduate Library include active learning classrooms, a new sound studio available for recording voice and instruments, and the newly remodeled video studio, which offers video recording, web conferencing, and media viewing.

UW Information Technology (UW-IT): UW-IT offers workshops for learning technologies including the learning management system Canvas and the new lecture-capture system Panopto. UW-IT Learning Technologies also offers one-on-one consultations for faculty and instructors looking to use technology for teaching. Faculty interested in speaking with a specialist in educational technologies can email help@uw.edu.

UW Bothell: The UW Bothell Teaching and Learning Center (TLC) offers faculty support, including monthly Teaching in Progress Seminars (TIPS), and resources on topics including online tools for collaboration and publishing to make student work public. For upcoming events, check the TLC schedule.

UW Tacoma: UW Tacoma's Faculty Resource Center offers individual consultation and workshops on pedagogy and technology. Teaching Forum at UW Tacoma is a faculty-led group that meets monthly. Past forums include "Work smarter, not harder: Using technology to be a more productive teacher." To join the conversation, post comments on the Forum blog.

Acknowledgments

An interdisciplinary student team studies Lake Union for an online exhibit in the UW Cities Collaboratory (see page 12 in this report). Above, left to right, Eleanor Mahoney and Megan Brown.