



Office of Faculty Development

Teaching and Learning Symposium

February 28, 2020
McKimmon Center

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Keynote Lecture

Reach Everyone & Teach Everyone with Universal Design for Learning

Dr. Thomas J. Tobin



Tom Tobin is the Program Area Director of Distance Teaching & Learning at the University of Wisconsin-Madison, as well as an internationally-renowned author and speaker on issues of quality in teaching with technology, including evaluating online teaching, academic integrity, copyright, and accessibility. He holds a Ph.D. in English literature, a second master's degree in information science, a professional project management certification, a master online teacher certification, the Quality Matters reviewer certification, and he recently completed the Professional in Accessibility Core Competencies (CPACC) certification. He tells his nieces and nephews that he is in 42nd Grade. He is the author of *Evaluating Online Teaching: Implementing Best Practices* (2015), *The Copyright Ninja* (2017), *Going Alt-Ac: A Guide to Alternative Academic Careers* (2020), and *Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education* (2018).

Concurrent Sessions

Shrinking a Large STEM Class: Providing Small Class Benefits in a Large Class (Room 3, 10:00-10:55 a.m.)

Facilitators: Lori Petrovich (Teaching Assistant Professor, Chemistry); Karen R. Young (Assistant Dean and Director of Undergraduate Programs, College of Humanities and Social Sciences); Henry Schaffer (Professor Emeritus of Genetics & Biomathematics, Coordinator of Special IT Projects & Faculty Collaboration)

Teaching difficult material in large class settings presents unique challenges to the instructor that are not experienced in small class settings. Technology can be used to compensate for some of the gaps between large and small classes. Formative Assessment, a term used in the area of educational studies, is not often used by instructors in STEM courses. We'll start with defining the term, and then profile how it benefits students and how it greatly decreases in availability as class size grows. While, with additional personnel resources, it can be provided even in large classes, the cost of doing this often (or usually) means it will be absent.

We will describe a relatively new methodology for providing automated individualized formative assessment to students based on their test performance in General Chemistry. The economies of scale which result from the use of computerized analytics and automated emailing make it possible to provide this individualized feedback service in an affordable manner even in very large enrollment courses. In addition, the analysis provides instructor feedback on class progress, or lack thereof, on a concept-by-concept basis, including Bloom's levels, rather than the tabulation of missed questions from item analysis. A description of the method and the required preparation by the instructor will be presented.

We will compare learning outcomes from a General Chemistry class (CH 101) in F18 and F19 where the methodology has only been used in F19. The learning outcomes will be presented in terms of success on the two semester's Final Exams. We will also share the results of anonymous student surveys. Student experiences with this methodology have generally been very positive regarding the help they received from the feedback reports. The responses were not uniform, but were somewhat split into different categories, reflecting student's feelings of whether or not they needed any assistance with the course material.