

UWM's Digital Future

Teaching and Learning Working Group Recommendations

1. Strategic Goal:

Promote the use of digital technologies for active learning across campus to positively affect student engagement, learning, and retention, with attention to access for all. Active learning involves students in more than passive listening; they are engaged in activities such as reading, discussing, and interacting with material; see <http://www.ntlf.com/html/lib/bib/91-9dig.htm>. Bonwell and Eison (1991) identify active learning as learning in which less emphasis is placed on information transmission and greater emphasis is placed on developing student skills through engaging activities requiring high order thinking. Students receive more immediate feedback in order to increase their learning.

The pedagogical benefits of active learning in higher education are well noted (Adler, 1982; Bligh, 2000; Bransford, et al., 2000; Chickering and Gamson, 1987; McKeachie, et. al., 1987; Silberman, 1996). There has been a transformation of courses across many disciplines and course levels using digital technologies to implement active learning strategies and examining the positive impact on engagement, learning, and retention.

Actions:

- 1.1. Highlight and promote best practices and model strategies for using digital technologies to enable active learning across campus for all types of courses, e.g., face-to-face, blended and online:
 - a. support and encourage instructors through incentives to develop courses that employ active learning strategies,
 - b. develop campus-wide awareness to promote the incorporation of active learning through the effective use of learning technologies (e.g., campus campaign),
 - c. recognize the effective use of active learning strategies and technologies in hiring, tenure and promotion processes, and
 - d. promote effective practices in learning space design to facilitate student-centered, active learning (See EDUCAUSE Quarterly, 2009, UMN Learning Environments Research, 2011).

- 1.2. Charge academic units with defining disciplinary criteria and benchmarks for using digital technologies to facilitate active learning, including best practices and assessing student learning:

- a. develop working groups to evaluate active learning in their own and cognate disciplines,
- b. promote both formative and summative course evaluations and assessments that emphasize the active learning methods specific to the type of course, e.g., face-to-face only, blended, and online, and
- c. develop a certificate for graduate students in the use of technology to promote active learning in their own disciplinary areas.

1.3. Promote pedagogical strategies facilitating active learning through the use of emerging technologies, such as mobile technologies, social networking, collaborative technologies, high fidelity simulations, student-created content, e-texts, and third-party vendor course materials:

- a. convene working groups to identify active learning pedagogical strategies for use in emerging technologies,
- b. establish criteria to evaluate the impact of these technologies,
- c. pilot the use of the emerging technologies to establish best practices and promote pedagogical models with special attention on the STEM disciplines,
- d. evaluate the necessary infrastructure (technology, support and facilities) for the use of the identified emerging technologies, and
- e. enhance faculty and student opportunities to use mobile devices (e.g., rental program and expanded wireless data packages/discount).

1.4. Further develop the capacity to investigate emerging technologies to provide evidence of impact on student learning outcomes:

- a. identify stakeholders (tech developers, ie computer science, engineering, researchers ie qualitative and quantitative, teaching and learning development staff, faculty participants) to evaluate and promote emerging learning technologies,
- b. establish leadership in the application and research on emerging technologies in academia,

- c. promote a research program on emerging technologies to assist in strategic planning for future technological implementations, providing constant development, and identifying research and opportunities,
- d. integrate technological leadership into faculty, staff hiring, promotion, merit, and incentives,
- e. use findings to determine where to allocate resources (budget and time),
- f. increase the interdisciplinary opportunity for development, research, and scholarship to benefit teaching and learning, and
- g. develop national recognition of UWM as an academic leader in using emerging technology.

2. Strategic Goal:

Develop an instructor (faculty, teaching academic staff, teaching assistants) training and development support plan for the digital future.

To fully benefit from its investment in professional development support for instructors, UWM needs to increase awareness and utilization of emerging technologies and new pedagogies. Centralized support for faculty training and development is offered through the Center for Instruction and Professional Development and through the Learning Technology Center. Further, many schools and colleges provide staff resources to support their instructors. Some of these support systems are not well known throughout the campus, and new technologies could be deployed to provide more effective “just-in-time” support to instructors. This would also encourage instructors to explore emerging technologies to enhance teaching and learning. Finally, faculty training should facilitate access for all instructors and students.

Actions:

2.1. Develop strategies to increase communication across campus to better support of instructors:

- a. Create marketing and advertising plans for existing and new support systems and materials,
- b. Provide universal design training, tools and support, and
- c. Determine which new technologies are needed to enhance faculty support and plan for their implementation.

2.2. Increase the use of digital course materials for teaching and learning through open content web-based systems that are accessible and free to all, including:

- a. increase faculty use of affordable or free web-based course materials, including offering training and a means of sharing knowledge of these free web-based course material repositories,
- b. develop preferred repositories and systems on campus to provide open access resources for course materials, such as the Desire2Learn (D2L) Learning Object Repository (LOR) and other systems that provide open access and sharing of resources,
- c. share training, tools and support to increase utilization of universal design techniques, and
- d. develop mechanisms to help students create their own content and contribute to open repositories.

2.3. Create a virtual teacher center, an online learning environment that would showcase and support pedagogical success at UWM, including:

- a. develop a fully accessible online environment for instructors to explore and try new technologies and pedagogical methodologies,
- b. showcase innovation, creativity, and best practices with new pedagogical tools,
- c. provide a how-to area for the use of new technologies and pedagogy, including the use of rich media and universal design strategies,
- d. offer training and support on emerging technologies (hardware and software), and
- e. provide these services through streaming videos (with transcripts, captioning, and/or video descriptions), synchronous webinars and chat, and other documentation.

3. Strategic Goal:

Ensure hardware and software accessibility of learning resources inclusive of all needs.

Actions:

3.1. Establish campus standards (i.e., web, media, course content, procurement) that meet Section 508 Standards and work toward W3C web standards.

3.2. Establish campus standards for infrastructure capacity and consistency (technology, wireless network).

3.3. Develop campus awareness campaign.

- a. Develop training and an online test with certification for all teaching staff regarding the campus accessibility standards.

3.4. Provide incentives for faculty to adapt course materials with universal design in mind by:

- a. recognize leadership in the faculty community for all course materials with innovation and compliance to improve accessibility, and
- b. create a system to rank and clearly identify course accessibility (class schedule, class website).

4. Strategic Goal:

Improve digital access for all students and increase student preparedness to participate in digital learning and discovery at UWM and beyond.

UWM needs to provide incoming students with mechanisms (through the General Education curriculum and coursework in the major) to expand their digital literacy to be effective learners and technologically proficient graduates. All UWM graduates should understand how to learn about and critically use new and emerging digital technologies for creating and engaging effectively with social, academic, civic, business, and research communities, such that UWM becomes known for graduates who have the abilities to be active, creative, critical, and collaborative users of a range of digital technologies.

Actions:

4.1. Assess technology and skills and provide technology access and skills development for incoming students and at no or low cost:

- a. develop a placement exercise for incoming students or create and disseminate a survey to determine students' technical knowledge baseline upon entry to UWM allowing

us to prepare training and support materials that best meet the needs of incoming students,

b. create a checklist of technology skills for college success for high school guidance counselors and teachers; also distribute at new freshman orientation with further resources/workshops available,

c. offer a (summer) information technology bridge program to bring students up to speed,

d. develop opportunities such as high school auditors/entire classes as guests in online classes for a week for college readiness and to support high school teachers, and

e. explore avenues of providing alternative access to hardware, software, broadband, and networks at low or no cost for students with greatest need.

4.2. Enhance students' ability to be active, creative, critical, and collaborative users of a range of digital technologies in preparation for the digital future:

a. implement Essential Learning Outcomes (ELOs) around critical technology literacy,

b. promote adoption of critical technology literacy into general education/integrative learning outcomes, and

c. implement and evaluate class components (or parallel classes) that support integrative learning and independent and networked problem solving across different disciplines/departments/areas develop.

4.3. Ensure technological skill, knowledge, and proficiency upon graduation:

a. create a more advanced and perpetually updated "discipline by discipline" checklist of tools needed to be successful upon graduation and ensure that all UWM students have access to training and support to learn how to use such technologies (e.g., Using SPSS training), and

b. develop a Technology Essentials Checklist social media application that would allow students to compare their technical knowledge with peers in their school or college.

5. Strategic Goal:

Meet the challenge of a digital future by increasing UWM's capacity to adjust its degree array in response to new trends in scholarship and societal and regional needs. Higher education will be impacted by a more competitive marketplace (for-profit education increase of 9% in 2009), a changing marketplace (globalization, home schooling, charter schooling, and other educational alternatives), and other factors, including disruptive technologies, which have already impacted other marketplaces (newspaper, music, television, and book-publishing industries) influencing student expectations (see Katz, 2010).

In practical terms, this means differentiating UWM from other higher education providers. To the extent that our academic program array is current (reflecting UWM's mission as a research university) and flexible (meeting the needs of today's busy learners and working adults) we will be prepared for the digital future.

Actions:

5.1. Make it easier to develop interdisciplinary academic programs:

- a. establish a task force to address administrative and policy hurdles in developing interdisciplinary degrees, such as disincentives arising from tenure and promotion policies, course credit distribution, pricing and revenue structures, course support, and
- c. charge campus leadership to devise ways to foster an overall campus culture of rewards and responsiveness to new degree opportunities that lie at the intersections of disciplines.

5.2. Seek out corporate and community input to evaluate how UWM current program offerings map to community, state, national, and international needs.

5.3. Explore opportunities and address administrative hurdles to teaching niche courses across institutions (e.g. WISE Consortium, see <http://www.wiseeducation.org/>)

5.4. Develop more online and blended degrees, so that each school and college has this capacity.