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A provost report series on trends and issues facing higher education

TOMORROW'S UNIVERSITY. TODAY.

Exploring the Pros and Cons of Online, Hybrid, and Face-to-face Class Formats

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In his annual address to the university community on October 18, 2012, President Michael Young [outlined his vision](#) of the University of Washington as “[Tomorrow’s University Today](#)”—a leader in public higher education that serves our community and drives our region’s economic future. “In order to stay extraordinary,” he said, “it isn’t simply enough to be responsive to change—we need to lead the change.”

One key facet of the change taking place at the UW and at institutions of higher education around the world is the growth of online learning. As the number of hybrid and online courses offered at the University of Washington increases, it presents an opportunity to reexamine the quality—and reach—of our educational work at UW. This report, part of an [ongoing series](#) on transformative changes in higher education, seeks to contribute to that effort by exploring the strengths and weaknesses of the class formats available to our instructors and students today, including online, hybrid, and face-to-face.²

While online learning has emerged as a major topic of discussion in recent years, online courses have been a part of the UW curriculum for more than a decade.³ Many of these online options, which include degrees and certificates, have been offered through the Seattle campus’s professional and continuing education unit, [UW Educational Outreach](#) (UWEO). (For a list of current online and blended certificates and graduate degrees, [see the Appendix](#).)

Definitions

Methods of categorizing course formats vary, but a basic approach includes:¹

- ▶ *Face-to-face: “traditional” classes; instructor(s) and students meet in the classroom or another in-person setting.*
- ▶ *Hybrid (or blended): a combination of both face-to-face instruction and online learning (often defined as 20–50% of total course time online).*
- ▶ *Online: primarily or entirely online (often defined as 80–100% of total course time online). Class size varies; at the UW, online courses offered through [UW Educational Outreach](#) (UWEO) usually have 45 or fewer students.*

Online and hybrid offerings

A variety of online and hybrid offerings are now available at all three campuses, including:

- ▶ 15 online and 1 hybrid graduate degrees administered by UWEO
- ▶ 40 online and 2 hybrid certificates offered through UWEO
- ▶ More than 75 additional online classes administered by UWEO, as well as online and hybrid courses offered on all three campuses, including hybrid classes in French and linguistics classes at UW Seattle, hybrid classes in nursing at UW Bothell, and online classes in introductory statistics at UW Tacoma

Online and hybrid teaching initiatives

All three UW campuses also have online and/or hybrid course design initiatives, and a rapidly growing number of online and hybrid courses.

- ▶ UW Bothell’s [Hybrid Course Development Institute](#) (HCDI) is in its third year.
- ▶ UW Tacoma’s [Instructional Technology Fellows Initiative for Course Redesign](#) began in summer 2012.
- ▶ UW Seattle’s [Center for Teaching and Learning](#) offers [workshops and learning communities](#) around ways to engage students in and out of class.

What are the pros and cons of different course formats?

All three of the primary course formats used at the University of Washington—online, hybrid, and face-to-face classes—have strengths and weaknesses. First, it is worth examining what they have in common:

Learning goals. The success of any class depends on identifying clear learning goals and then aligning the entire course (lectures, readings, examinations, projects, papers, etc.) with those objectives.⁴ At the University of Washington Tacoma, for example, the Instructional Technology Fellows Initiative uses the [Quality Matters rubric](#), which is designed specifically for evaluating online and hybrid courses, to guide faculty in this process.

Engaging students. Successful classes require a learning environment that truly engages students. Although the methods for engagement may vary by class format, “active learning” is a fundamental characteristic of a good course.⁵

Advising. Students in all courses require advising about their overall educational plan. Online courses do not obviate the need for the substantive support that students often depend on to select a thoughtful array of courses and to graduate in a timely manner.

Varied quality. In all formats, the quality of the educational experience may vary depending on course design and organization, and the instructor’s teaching style and ability to engage with student questions and feedback.

In examining differences among class formats, we are working from the premise that any format has strengths and limitations.

Face-to-face classes

The pros

- ▶ *Gauging learning.* Ideally, due to the synchronous format, faculty members can gauge their students’ level of engagement, attentiveness, and comprehension. Student questions provide the instructor immediate feedback and can shape how that class session’s material is presented.
- ▶ *Collaborative environment.* Traditional classrooms often create a collaborative environment where discussion and dialogue can thrive. Synchronous peer-to-peer and student-faculty conversations allow students to receive immediate individual feedback and mentorship, to hone their speaking and argumentation skills, and to form lasting interpersonal relationships.
- ▶ *Student motivation.* Some students find face-to-face classes particularly engaging because they can talk to their professors in person and get immediate responses to their questions or concerns. Face-to-face classes also provide a structure for students, in which class time becomes a routine part of their schedule.
- ▶ *Unique format.* Seminar-style courses offer upper-level and graduate students a unique learning experience that cannot be fully replicated online with the technology currently available.⁶
- ▶ *Student access and support.* Both students and campus services (e.g., Disability Resources for Students, advising, tutoring centers) are most familiar with this format.
- ▶ *Faculty experience.* Most faculty members are very familiar and comfortable with this format.

The cons

- ▶ *The pace.* In many face-to-face classes, faculty members cannot provide individualized or customized learning experiences. Students who need extra time to understand certain concepts may be left behind.
- ▶ *Impediments to engagement.* Students may be embarrassed about or intimidated by asking clarification questions in person during class. Additionally, the face-to-face setting can encourage an overreliance on lectures, limiting opportunities for active learning and often hampering student engagement.⁷

- ▶ *Scheduling.* Students must arrange their schedules so they can be there in person, which may limit access to classes for those working at part-time or full-time jobs.
- ▶ *Access and support.* Some accommodations—for example, sign language interpreters—must be individually arranged for faculty, guest speakers, and students with disabilities.
- ▶ *Large-class challenges.* In large face-to-face classes with over 100 students, classroom management issues can be especially difficult, if, for example, students arrive and leave throughout class, engage in extensive multi-tasking, and/or distract other students from learning.
- ▶ *Technical problems.* The wide variety of educational technologies provided in classrooms and procedures for using them present challenges for faculty, and some hardware and software are not fully accessible to faculty with disabilities. When problems using technology in classrooms and labs arise, immediate technical support is often not available to the instructor.

Online classes

The pros

- ▶ *Convenience and flexibility.* Students can do coursework on their own schedule and at their own pace. This flexibility facilitates balancing school, work and/or family obligations, enabling students to access more courses. Faculty members who teach online can also take advantage of this scheduling flexibility to balance teaching and their own personal obligations, as well as professional duties such as research, service, and mentoring students. The opportunity for both instructors and students to work from home allows for transportation-related cost- and time-savings.
- ▶ *Reviewing material.* Students can often re-watch recorded lectures, repeat exercises, re-read peer discussion comments, and take the time they need to master concepts, which could be particularly advantageous for English language-learners; for students who are struggling in a particular subject; and for students who are juggling classes, part-time jobs, and family responsibilities.
- ▶ *Student motivation.* Some students may find asynchronous online work more engaging, as they can interact with the material when they are freshest and most productive. Instant grading tools, commonly used in online classes for some disciplines, enable students to test their understanding and get immediate feedback.
- ▶ *Fewer pressures on limited space.* Online education can reduce pressure on university facilities by freeing up classrooms.
- ▶ *Analytics and assessment.* Online exercises and assessments provide an opportunity to collect additional data on student learning that instructors can use to track individual student progress and to revise and improve course design.
- ▶ *Access and support.* Online classes provide vital access to place-bound populations and other groups traditionally underserved by institutions of higher education, if designed to be accessible to everyone (for example, with captions on videos and other features to make coursework accessible to students and faculty with disabilities). Accessibility can be seen as particularly important to public institutions, like the UW, with an educational mandate to serve the citizens of their states.
- ▶ *Technical issues.* Technical issues can be addressed centrally. For example, during the course design process a central service can efficiently and consistently provide captions on videos and otherwise make content fully accessible to students and faculty with disabilities.

The cons

- ▶ *Some students may struggle.* Online courses may be more effective for self-directed learners. They appear to work best for students who are mature, well organized, and have good time-management skills.
- ▶ *Community.* Online courses may not be able to replicate the vibrant intellectual and social community fostered by in-person education. In particular, online students may miss out on the many networking and mentoring opportunities available to on-campus students. However, in well-designed online classes, the opposite can be true—students who rarely speak up in face-to-face classes are drawn into conversations through mandatory online discussion board posts and peer-responses.
- ▶ *Instructor workload.* Faculty members often need training to use technology tools such as lecture-capture systems and learning management systems (LMSs), representing an additional time investment on their part. In online courses, instructors often seek to compensate for the lack of in-person

interaction by maintaining a high degree of communication with students, which can be very time-consuming. The [2010-11 UW Faculty Council on Teaching and Learning Annual Report](#) noted that the “time needed for development of on-line courses can be significant” and that “continuing maintenance of course content after initial implementation may also require significant faculty time.”

- ▶ *Student support.* Some students, including those with disabilities, may struggle to use online tools and will likely need technological support.
- ▶ *Technical problems.* Invariably, technology problems arise. As the Illinois Online Network [notes](#), “Unfortunately, it’s not a question of if the equipment used in an online program will fail, but when.” Servers can crash and cut students off from a class, individual personal computers can malfunction, and problems may arise with the site or LMS used to host the class. This presents a challenge not only for the instructor and their students, but also the department or university responsible for providing administrative support and sufficient IT staff.
- ▶ *Access.* Some potential students have limited or no access to computers, the Internet, and/or assistive technology.

Hybrid classes: The best of both worlds?

- ▶ Ideally, hybrid classes combine the best attributes of both face-to-face and online formats into a course delivery method that is both flexible and accessible while providing an interpersonal experience with instructors and a physical connection to campus.
- ▶ Recent studies such as a [2010 U.S. Department of Education meta-analysis](#) suggest that hybrid courses result in superior student learning outcomes, not necessarily due to the format itself, but because students often spend extra time reviewing course material.
- ▶ Students in hybrid courses also gain skills in communicating effectively in multiple modes.
- ▶ While the hybrid format combines the best qualities of online and face-to-face classes, it also retains the weaknesses of the two formats it comprises. For example, designing a hybrid course may take as much or more effort and time as an online class on the part of the instructor. Handling the dual environments and ensuring that they fit smoothly together can also pose an additional challenge to the instructor. Technological issues and troubleshooting may remain a hurdle for both the professor and students. And face-to-face sessions must still be designed to maximize active learning and student engagement. Above all, despite its recent growth, the infrastructure to support hybrid courses at all three campuses of the UW is still nascent.

Continuing the conversation

Classes in all formats (including face-to-face, online, hybrid) have distinct strengths and weaknesses. Perhaps the greatest strength of face-to-face courses is the degree to which they facilitate building relationships and community in and out of the classroom. Increasing access to “non-traditional” or place-bound students may be the greatest strength of online and hybrid courses, which enable universities to include people who desire a degree or certificate but who cannot come to campus regularly or at all. For public universities, like the University of Washington, with a mission to educate the next generation of innovators and leaders, to serve the local community, and drive the economy by providing lifelong learning and re-training opportunities to the workforce, this goal of increasing access is especially significant and worthy of further consideration.

In hopes of further developing our conversations about these and other important issues related to online learning, the next report in this series will focus on instructor experiences with online teaching and educational technologies.

We welcome your comments, questions and suggestions. Please email edtrends@uw.edu.

Notes

¹For some other examples of online education course classifications, see Barbara Means, Yukie Toyama, Robert Murphy, Marianne Bakia, and Karla Jones, “Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies,” U.S. Department of Education Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service, revised September 2010, <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>, 5; Elaine Allen and Jeff Seaman, “Going the Distance: Online Education in the United States 2011,” Babson Survey Research Group, November 2011, <http://www.babson.edu/Academics/centers/blank-center/global-research/Documents/going-the-distance.pdf>, 7; and UW Bothell’s Learning Technologies website: <http://www.bothell.washington.edu/learningtech/elearning/hybrid-learning/about-hybrid/hybrid-at-uw/>.

²Find the first two reports: “Thoughts on Leading Change in Public Higher Education: Dr. James Duderstadt’s Vision,” October 30, 2012, and “Online Learning: Broadening the Conversation,” December 3, 2012, on the Office of the Provost’s website at <http://www.washington.edu/provost/reports/>.

³While massive open online courses (MOOCs) have recently come to the forefront of the conversation about online teaching and learning, they represent a small proportion of all classes offered online. As a result, this report does not address the strengths and weaknesses of the MOOC format. For a detailed analysis of the potential impact of MOOCs on higher education from the UW Office of Planning and Budgeting, see the May 14, 2012 brief, “Does the Advent of MOOCs Mean That Technology Will Finally Revolutionize Higher Ed?” available from http://opb.washington.edu/sites/default/files/opb/Policy/EdX_brief.pdf. Additional reporting on the “year of the mega-class” is available online through The Chronicle of Higher Education’s MOOC portal at <http://chronicle.com/article/What-You-Need-to-Know-About/133475/>.

⁴For resources about course design and teaching strategies, see the UW Center for Teaching and Learning’s faculty resource page on preparing to teach at <http://www.washington.edu/teaching/teaching-resources/preparing-to-teach/>.

⁵The National Survey of Student Engagement considers “active and collaborative learning” a “benchmark” of “effective educational practice.” See the 2012 Annual NSSE results, available from http://nsse.iub.edu/NSSE_2012_Results/pdf/NSSE_2012_Annual_Results.pdf, p. 31, for more information. For more resources about active learning, see the UW Center for Teaching and Learning’s faculty resource page on student engagement at <http://www.washington.edu/teaching/teaching-resources/promoting-student-engagement-through-active-learning/>.

⁶However, there are some tools, such as [Google Hangout](#) and [Adobe Connect](#), which do seek to replicate the in-person seminar or meeting online.

⁷One technique used by a growing number of University of Washington professors to re-engage students during face-to-face classes is “flipping the classroom.” For more information about “flipping,” see “The Flipped Classroom FAQ” from the Center for the Integration of Research, Teaching and Learning, available from: <http://www.cirtl.net/node/7788>. See also the December 16, 2012 Seattle Times article, “Washington college instructors are ‘flipping’ the way they teach,” available from http://seattletimes.com/html/localnews/2019920197_flipping17m.html, which includes an interview with UW Biology professor Scott Freeman.

Appendix:

UW Online and Hybrid Learning: Current Degrees and Certificates

Online and hybrid graduate degrees

College of Built Environments

- ▶ [Master of Infrastructure Planning and Management](#)
- ▶ [Master of Science in Construction Engineering](#)

College of Arts and Sciences

- ▶ [Master of Science in Computational Linguistics](#)
- ▶ [Master of Science in Computational Finance and Risk Management](#)
- ▶ [Master of Geographic Information Systems](#)
- ▶ [Master of Science in Applied Mathematics](#)

College of Engineering

- ▶ [Master of Science in Aeronautics and Astronautics](#)
- ▶ [Master of Aerospace Engineering](#)
- ▶ [Master of Aerospace Engineering in Composite Materials and Structures](#)
- ▶ [Master of Science in Civil Engineering: Construction Engineering](#)
- ▶ [Master of Science in Mechanical Engineering](#)
- ▶ [Master of Supply Chain Transportation and Logistics](#) (requires one week in Seattle at start of program)
- ▶ [Master of Sustainable Transportation](#)

Information School

- ▶ [Master of Library and Information Science](#)

School of Nursing

- ▶ [Master of Science in Clinical Informatics and Patient-Centered Technologies](#)

School of Public Health

- ▶ [Executive Master of Public Health \(hybrid\)](#)

Online and hybrid certificate programs

- ▶ [Android Application Development](#)
- ▶ [Applied Biostatistics](#)
- ▶ [Advanced Applied Biostatistics](#)

- ▶ [Biotechnology Project Management](#)
- ▶ [C++ Programming](#)
- ▶ [Cloud Computing](#)
- ▶ [Computational Finance](#)
- ▶ [Construction Management](#)
- ▶ [Data Science](#)
- ▶ [Database Management](#)
- ▶ [Decision-Making for Climate Change](#)
- ▶ [E-Learning Design and Development](#)
- ▶ [Embedded and Real-Time Systems Programming](#)
- ▶ [Facility Management](#)
- ▶ [Financial Risk Management](#)
- ▶ [Food, Nutrition and Health](#)
- ▶ [Gerontology](#)
- ▶ [Green Stormwater Infrastructure Design and Management](#)
- ▶ [Health Economics and Outcomes Research](#)
- ▶ [Heavy Construction Project Management](#)
- ▶ [Information Security and Risk Management](#)
- ▶ [Infrastructure Construction](#)
- ▶ [iOS and Mac Application Development](#)
- ▶ [Localization: Customizing Software for the World](#)
- ▶ [Medical Devices and Commercialization](#)
- ▶ [Microsoft Dynamics CRM](#)
- ▶ [Natural Language Technology](#)
- ▶ [.NET Development](#)
- ▶ [.NET Advanced Web Development](#)
- ▶ [Oracle Database Administration](#)
- ▶ [Paralegal Studies](#)
- ▶ [Professional Open Source Web Development](#)
- ▶ [Project Management](#)
- ▶ [Radiation: Sources, Detection, Imaging and Safety](#)
- ▶ [School Library Professional Endorsement \(hybrid\)](#)
- ▶ [SQL Server Specialist](#)
- ▶ [Statistical Analysis with R Programming](#)
- ▶ [Sustainable Transportation: Environmental Issues and Impacts](#)
- ▶ [Sustainable Transportation: Planning and Livable Communities](#)
- ▶ [Translational Pharmaceuticals \(hybrid\)](#)
- ▶ [Virtual Worlds](#)
- ▶ [Web Technology Solutions](#)