Process: Five focus groups encompassing 72 participants, including 2 deans, 40 faculty, 30 staff, each met for 1.5 hours, and included representation from UW faculty, libraries, academic advisers, medical school and from both branch campus, UW Bothell, and UW Tacoma.

2y2d Themes: Focus groups identified the following themes in teaching and learning as likely to be prevalent two years and 20 years from now: Effects of Technological Change on Pedagogy; Changes in Students; Access; Interdisciplinary Study; Experiential Learning. These themes are detailed below.

1. Effects of Technological Change on Pedagogy
   - The University will explore multiple ways to form community among its members, including virtual and real-time relational communities.
   - Electronic delivery and interaction mechanisms will increase.
   - Use of online and contemporary teaching technologies and media sources will be included in classroom pedagogy, while also allowing for faculty involvement with students. “Cloud” computing and networking technologies will grow and prosper (as long as network bandwidth keeps pace) allowing network speeds at home, in dorms etc. Even with these changes, engagement with students is highly valued.
   - Project-based units will increase—e.g., labs, papers, written protocols, oral/media presentations.
   - UW will respond to globalization, using technologies that will allow students to engage issues, problems, and people around the world.
   - Improved quality of classrooms will keep pace with classroom teaching/learning technologies, such as blogs, collaboration software, wikis, video podcasts, social networking, smart boards, document management systems, and Skype.
   - The number of hybrid courses (a course structure that combines in-person and online instruction) will increase.
   - The number of mixed (or blended) course types in will increase, with some students attending face-to-face, others at a distance at the same time, and others via delayed web casts.
   - The use of digital tools, such as Go Post, Catalyst tools, web generally, video, Facebook, library on-line resources, and others, will increase.
   - Pedagogy will make use of the technology students bring to class, such as Ipads, smart-phones and laptops. Instead of fighting over the use of these items in class, faculty will engage them, asking students to use them in class and creating multiple avenues to engage students. (“There are things that are better online and things that are better face to face. Sorting this out is the more immediate challenge for faculty.”)

2. Changes in Students
   - Increasing numbers of students who cannot attend face-to-face classes (e.g., they are not local, their jobs require them to be elsewhere, transportation to campus becomes more complicated) will call on the UW to identify creative ways of opening access to knowledge.
   - Application-based learning (e.g., using computer games to teach concepts) will take advantage of changes in students’ attention spans and habits.
• Students rely on an increasingly diverse range of media, resources, and engagement – and they are making connections themselves. They do their own research, mostly online, beyond course materials. Faculty currently foster this kind of independent research by providing students with the URLs for “further information” on classroom topics.

• Students are constantly engaged with visual images, so greater attention will be paid to visual resources (repeated by more than half of the respondents). Incorporating plenty of images is already crucial to learning. (“Visual stimuli can remind student of the lecture content.”)

• Students’ digital literacy is an important factor in student learning in the future. Students and faculty will continue to be challenged to gauge the reliability of information. Students will need to learn to use the web more critically, especially as a research tool (finding data, etc.).

• Students will need to make use of digital tools for their majors; therefore, there is a need for teachers to create digital tools for their disciplines (rather than relying on someone else’s software). (“I can envision wholly new ways of displaying content that take one very far from the book. I also imagine this changing when the digital natives become the next generation of scholars, which is something for which we must prepare.”)

• Students already connect with experts, faculty at other institutions, and students around the world to solve problems in some disciplines, such as Electrical Engineering. Students will increasingly use the Internet to connect with others in class, in real time. Faculty will need to give students a sense of sources that are far more than simple Google searches.

• Students are adept at multi-tasking and will engage in more multi-tasking in classrooms, decentralized learning structures, shorter attention spans, greater interest in access to online materials that promote experiential and shared learning outside the classroom. (“I believe that students may approach the task of critical inquiry in a very different way than those that were learned by today’s instructors when they were students….Today’s generation’s tendency is to collect many bits of information— as opposed to large chunks at a time.”)

• Students want to use communicative technology more (web searches, online components of courses, etc.).

• Students are less likely to be native speakers of English.

3. **Access**

• In-person teaching needs to be reinforced, because those interactions are the best for many students.

• Our public-service mandate will advance education within reach of people who might otherwise not be able to access UW.

4. **Interdisciplinary Study**

• Interdisciplinary and innovative teaching and learning will be encouraged, which may require breaking down social, communication, and institutional boundaries and offering more core courses to students.

• Interdisciplinary work will need to be recognized in tenure decisions and in other reward structures.

5. **Experiential Learning**

• There will be greater UW engagement with community leaders and mentors.

• The UW will offer more multimedia/multi-experiential teaching and learning/public scholarship opportunities that focus on the specific application of knowledge in real-world settings.

• Field work, field trips, in-class (such as the Political Science course on Congress), and other forms of experiential learning will be used to illustrate course concepts.

**Future:** What are the implications of these themes for the future?
1. Faculty may teach in more than one medium.
2. Students may be expected to collaborate online to complete group projects.
3. Textbooks and printed materials may be largely replaced by online materials.
4. Traditional paper-based grading methodologies may change to accommodate new ways of learning, including collaborative projects.
5. Courses may vary in length, rather than being solely quarter-based.
6. A greater number of interdisciplinary majors will be offered.
7. Inter-university collaboration on individual coursework will be available (i.e., students from different institutions may work together on a given topic).
8. The inevitable cost increases may drive a market response of alternative ways of accessing degrees, or even alternative degrees and certification.

Vision: What policy changes should UW contemplate in the next two decades?
1. Excellence and access will remain essential to the UW mission.
2. Demographic realities of Washington State and the nation will require a commitment to diversity and access.
3. Professional development of faculty in keeping with pedagogic, curricular, and technological changes will be important.
4. Size of student population should not become more important than quality. UW should maintain a focus on excellence of personnel and programs at all levels of the institution.
5. Student breadth will be facilitated through integrated (linked) advising, broad curricular links.
6. Capstones will be created for departments across campus, and they will facilitate student teamwork.
7. The UW will need to consider growth of direct entry for newly enrolling students from high schools, especially into competitive colleges, schools, and majors. Some benefits of direct entry can be significant; for many students and the UW, direct entry may: improve the University’s competitive advantage in attracting and enrolling high-achieving students; allow for earlier advising as well as retention-enhancing student attachment to specific academic disciplines and faculty; encourage curricular and advising innovation in the first two years of study; allow more possibilities for student leadership activities and fosters study abroad experiences; permit students to pursue more complex and complete educational programs through research, double majors, and internships; and strengthen institutional and program loyalty.
8. Departments will need to carefully assess changes in student learning as changes in curriculum and pedagogy occur.

Recommendations:
1. Create a jobs/internship database.
2. Renew focus on assessment of student learning, including developing the new tools/methods needed to assess new kinds of learning.
3. Provide support (financial and time) for faculty to create and use new technologies and new methodologies. (“The common lament I hear from faculty who work with technology and teaching about or use creative, multi-method research techniques is that there isn’t enough time to keep up with it all.”)
4. Provide support for students to learn to use new technologies and new methodologies.
5. Pursue and study blended and hybrid courses. (“I would like to think about a hybrid program of study – not just one course. The thinking, the skill set, and the high-speed tech access required of students is different in a hybrid course and it takes time to get them up to speed in order to make effective use of the format. Same goes for faculty.”)
6. Identify ways to teach students to think and research critically and write effectively in the new information arena in which we all find ourselves.
7. Identify and consider challenges for students in writing.
8. Acknowledge technology projects in tenure and promotion cases; allow materials in digital form, but recognize the work increasingly involved in teaching.
9. Help students move from course-centered learning to “career-centered” learning—i.e., through tools like Refworks, mapping sites, and the like—to build cumulative knowledge summaries that transcend a course-by-course approach.

10. Explore ways to enlist our digitally-savvy students into agents for a class—e.g., enlist them to find appropriate readings (once the faculty member has identified an idea, concept or core reading).

11. Pursue a project-based curriculum that is not too compartmentalized.

12. Use technology by asking students to produce creative projects, but deal with the challenges presented by differences in students’ access and training and in the difficulty in evaluating creative projects.

13. Fund well-equipped classrooms. (“I would love it if more classrooms were more technologically advanced with projection equipment hardwired. I tote around a portable projector to all my classrooms, unfortunately.”)

14. Keep up with the science of learning and research on the brain, and broadcast results of that research widely to the faculty.

15. Use technology to support the teacher, rather than replace the teacher. Nothing can really replace the teacher.