

Faculty Technology Survey
Dakota Wesleyan University
Spring 2004

Executive Summary

Introduction

A series of interviews were conducted with DWU faculty by Dr. Mike Albright, Title III Instructional Development Specialist, between February 11 and April 15, 2004. The interviews were limited to full-time, tenured or tenure-track, teaching faculty who expected to return to DWU for the 2004-05 academic year. Only three faculty in this category could not be interviewed. (Five individuals with faculty status but do not regularly teach, for example the Library faculty, were not interviewed.)

The interviews were conducted for two general purposes. The first was to establish a baseline for the Title III grant, to determine the level of technology use by faculty in the first year of the grant. We will conduct a similar survey in the last year for the purpose of documenting change. The second was to collect information for a needs assessment. Information was sought regarding faculty priorities for professional development, the best methods for providing information and training to faculty, faculty interests in technology-driven pedagogies, faculty concerns about DWU classroom environments, and faculty perceptions of barriers to the use of technology in their teaching.

Demographics

- Thirty-eight faculty meeting the criteria noted above were interviewed.
- Twenty-one were male, 17 were female.
- Division affiliations were 13 Natural Sciences, 11 Social Sciences, 8 Humanities, and 6 Education.
- The number of years of teaching experience ranged from one to 51, with a mean of 20.7 and a median of 18.5.
- The number of years teaching at DWU ranged from one to 32, with a mean of 11.2 and median of 6.5.

Current Technology Use By Faculty

Office access. All faculty interviewed had University-provided computers and high-speed Internet access in their offices.

Home access. Thirty-one (82%) said that they had computers at home that they regularly use for professional work, and several others said that they take their University laptops home for work purposes in lieu of a home computer. The 82% figure is a slight increase over the 78% reported in a Spring 2000 faculty survey.

Twenty-nine (76%) indicated that they have Internet connectivity at home, a significant increase over the 55% reported in the 2000 survey. Home Internet access is provided through a variety of means, including cable modem (34%), dial-up to an Internet service provider (24%), DSL (8%), Santel microwave (5%), and Verizon (5%).

Electronic mail. All 38 interviewees reported use of electronic mail for professional purposes at least weekly, and 35 (92%) use it daily. Twenty-two (58%) use e-mail to communicate with students on a daily basis, and 90% do it weekly. The number of e-mail messages estimated to be received from students in a typical class week ranged from zero to 60, with a mean of 14.8 and a median of 9. These questions were not asked in the 2000 survey.

Web use for professional purposes. Half of the interviewed faculty use the web for professional purposes on a daily basis, and 87% at least once a week. This is a significant increase over the 2000 survey, in which just 10% said they used the web daily and 56% used it weekly.

Personal Internet use. Twenty-nine (76%) use the Internet (web, e-mail) for personal use on a daily basis, and 95% use it at least weekly. These figures compare with 48% daily and 83% weekly in the 2000 survey and show a significant increase in Internet use by the faculty for personal reasons.

Word processing. All 38 reported use of Microsoft Word for word processing at least 2-4 times per week, and 82% use it daily. Use has increased somewhat over 2000, but was already high at that time.

Spreadsheets using Excel. Just 16 (42%) faculty use Excel at least once a week, only a modest increase over 2000. However, only 37% of the interviewed faculty never use Excel, compared with 60% in 2000. More faculty are using Excel, but not often.

Course management systems. Twenty-two (58%) of the faculty have used a course management system (CMS), a higher percentage than might have been expected. CMS's used include Blackboard (10), Jenzabar (9), and Maverick (7). Seven faculty have used more than one. When asked if they would be interested in putting all or part of a course online in the future, 32 (84%) of the faculty said Yes.

MyWeb and H-drive. Just 11 faculty (29%) have put course materials on the MyWeb server, but 32 (84%) store electronic files on the H-drive.

PowerPoint. Seventeen faculty (40%) have created non-print digital media for use in their teaching. Most of these were PowerPoint presentations.

Classroom technologies. Eighteen (47%) of the participating faculty use classroom technologies on a daily basis, and 27 of the 38 (76%) use it at least weekly. The most frequently cited technologies were overhead transparencies, video, PowerPoint, and web resources.

Current Faculty Skill Levels in Software Applications

Faculty were asked to self-assess their skill levels with 13 software applications either already in place or with potential for installation here at DWU. The rating scale included: Have not used, Novice, Adequate, Advanced, and Expert. The following percentages indicate the number who rated their skill levels at least Adequate in each application:

- Microsoft Word – 100%
- E-mail using Microsoft Outlook – 88%
- Use of the web to locate desired information – 85%
- Microsoft Internet Explorer as a tool – 61%
- Microsoft PowerPoint – 51%

- Microsoft Excel – 38%
- Calendar tool in Outlook – 27%
- Image manipulation tools (e.g., Adobe Photoshop) – 21%
- Drawing tools (e.g., Adobe Illustrator) – 15%
- Relational database tools (e.g., Filemaker Pro) – 9%
- Web authoring tools (e.g., Microsoft FrontPage) – 6%
- Publishing tools (e.g., Microsoft Publisher) – 4%
- Digital video editing tools (e.g., Final Cut Pro) – 0%

Faculty Priorities for Professional Development

Of the software applications listed above, the following were rated High or Medium as a training/professional development priority by at least half the surveyed faculty.

Microsoft PowerPoint – 76% of all faculty interviewed
 Microsoft Word – 61%
 Use of the web to locate desired information – 55%
 Microsoft FrontPage for web authoring – 54%
 E-mail using Outlook – 54%
 Internet Explorer (as a tool) – 50%
 Microsoft Excel – 50%

It must be noted that while some faculty need this training at the basic, introductory level, others desire intermediate or advanced level training. Training at multiple levels is necessary.

It must also be noted that while training in online teaching and use of the Jenzabar course management system was not specifically queried in this part of the interview, it is quite evident from the comments reported in the raw data that these are high priority professional development topics for faculty.

Faculty were then asked to rate, on a scale of 1 (very low) to 5 (very high), their interest in each of the following means of providing information/training to them. The rank order of the means is as follows. A mean of 3.000 would indicate average interest.

4.500	Web site on teaching with technology
4.469	Technology handbook specific to DWU
3.938	E-mail newsletters on teaching with technology
3.781	Handbook on teaching online
3.500	Half-day workshops during university breaks
3.344	Live 1-2 hour workshops on class days
3.281	TLT Roundtable
3.219	Brown-bag lunch sessions
2.813	Faculty show-and-tell sessions
1.969	Half-day workshops on class days

Interest was moderate to high for all options except for half-day workshops during the semester. The four alternatives rated the highest by faculty were the four choices that faculty can use on their own time, at their own convenience. It is clear that faculty prefer asynchronous opportunities over scheduled events. It is also quite evident that no single time during any class day works well for even a significant number of the faculty.

Interest in Technology-Based Pedagogies

Faculty were asked to rate, on a 1 to 5 scale, the potential of each of 13 different technology-based pedagogies for improving teaching and learning in their courses. The rank-ordered means are as follows. (A mean of 3.000 would indicate average interest.)

4.371	Online learning resources that students can access anytime, anywhere
4.147	Online "learning objects" that can be shared by faculty worldwide
4.086	Online collaboration tool for group activities
3.722	Electronic portfolios
3.667	Online discussion tool (not in real time)
3.618	Plagiarism detection tool
3.514	Desktop videoconferencing in the classroom
3.471	Online assignment grading tool
2.500	Secure online testing tool
2.486	Chat tool for real-time online discussions
2.176	Online collaboration and web publishing tools
2.000	Web log, or blog, tool for online log-keeping and sharing
1.971	Tool for submission of audio files

These results, especially the first eight items, show a very strong desire by DWU faculty for greater access to technology-based teaching methods.

Desired Improvements to DWU Classrooms

Faculty were asked how they felt about their classrooms. Following are the only issues that were identified by more than two of the interviewees.

- The need for improved usability of existing classroom equipment was identified by 15 different faculty (39%). These problem areas have been noted and will be addressed to the degree possible.
- Thirteen faculty (34%) felt we needed more smart classrooms, or that all classrooms should be smart classrooms.
- Ten (26%) asked for better seating or more appropriate seating or room arrangements for the purpose of facilitating group activities or seminars.
- Seven (18%) identified the need for physical improvements to Science Hall. The lack of air conditioning was the most commonly cited problem area, along with the absence of bright, intellectually stimulating classrooms and contemporary lab equipment.

Perceived Barriers to Technology Use

In a related question, faculty were asked to identify campus barriers to their use of technology in their teaching. Some of these were identified in earlier questions. Following is the list of barriers that were specifically mentioned by faculty in response to this question.

- Lack of time – 10 faculty (26%, although this issue was frequently mentioned in responses to other questions)
- Lack of knowledge – 8 (21%)
- Unreliability of campus technologies – 6 (16%)
- Lack of smart classrooms – 4 (11%)
- Technology cumbersome to use – 3 (8%)
- Uncertainty about what technology will be available – 2 (5%)

Conclusions

Overall, the survey found a fairly high level of technology use by Dakota Wesleyan faculty at the present time. Moreover, faculty are enthusiastic about technology-facilitated pedagogies that either are being put in place or have high potential for adoption here at DWU. Faculty also identified a number of significant barriers that currently restrain their use of technology. These findings were particularly useful in creating a snapshot of technology use by faculty at this point in time, identifying issues that must be resolved, and prioritizing the time allocation and work directions for the Instructional Technology Specialist.