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**A celebration of Tom  
Shaughnessy's career**

■ "Research Libraries in Academic: Partners in the Digital Age," a Colloquium in Honor of Dr. Thomas Shaughnessy, University Libraries

■ Oct. 15, 1–5:00 PM, Cowles Auditorium, HHHCtr. Keynote address by Dr. Kenneth Frazier, Director of Libraries, University of Wisconsin, Madison. A UM faculty panel will address the library/academy partnership.

■ Registration is required: [staff.lib.umn.edu/colloquium.phtml](mailto:staff.lib.umn.edu/colloquium.phtml) • or contact Jan Roseen, [j-rose@umn.edu](mailto:j-rose@umn.edu)

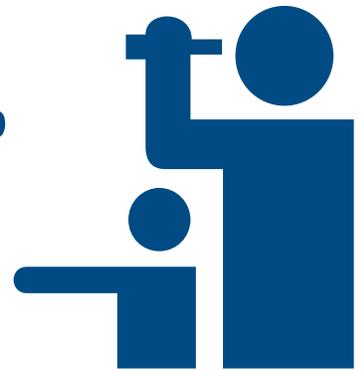
"When Tom first came to Minnesota, his plate was full with user complaints and staff concerns, a very rare event now. Today the Libraries are people-oriented and user-focused. Yes, we have lots of high tech and wonderful resources and services, but most importantly we have a wonderful and approachable staff. Tom has not only worked to make the Libraries an indispensable resource for everyone on campus, but a far more interesting and enjoyable place to practice our profession. Have the Libraries been a positive factor in your teaching, research or your life? Take a moment to thank someone clearly responsible for providing that." — Nancy Herther

# Information Technology

Newsletter

## Students Surveyed

*Students in four colleges surveyed  
about their experiences with  
Instructional Technology*



### Background

In the spring of 2001, representatives of four colleges (education and human development, human ecology, liberal arts and veterinary medicine) and staff members from the Digital Media Center set out to evaluate the ways in which students in these four colleges experienced instructional technology.

We drew on the following sources to design the survey: the University of Michigan's fall 2000 student survey, Chickering and Ehrmann's "Implementing the Seven Principles: Technology as Lever," <<http://www.tltgroup.org/programs/seven.html>>; and *How People Learn: Brain, Mind, Experience, and School* (John D. Bransford et. al., eds.)

### Objects of evaluation

Our objective was to evaluate how instructional technology is affecting students' learning environment. More specifically, the survey attempted to assess the following items:

- student attitudes toward instructional technology
- student satisfaction with facilities and infrastructure (e.g., student computer labs, technology-enhanced classrooms)
- impediments to student use of instructional technology
- students' level of experience with various digital technologies
- student priorities for the disposition of technology fees

## Methodology

The survey contained 15 closed-ended questions and one open-ended question. Each college and unit requested feedback on the survey questions from faculty members, collegiate associate deans and unit heads and incorporated this feedback into the survey. (For the full text of the survey, contact J.D. Walker at [walker@boombox.micro.umn.edu](mailto:walker@boombox.micro.umn.edu).)

The survey was Web-delivered, password-protected and released to a random sample of 1,100 students from the four colleges involved in the project. We worked with staff from Institutional Research and Reporting to obtain a random sample of students. These students received postcards and e-mail notices from their deans requesting them to participate in the survey, as well as a follow-up e-mail to remind them to complete the survey.

We obtained 290 usable records (56 others logged in to the survey but left it blank), for a 26.4% response rate.

## Survey results

### Connection speeds

We found that a high proportion of University of Minnesota students used a high-speed connection:

56.5% of students reported using some sort of high-speed connection (Ethernet, DSL or cable modem) at their primary locations. First-year students are were the most likely to have high-speed access; graduate students are were the least likely.

The majority of the students also regarded this sort of connectivity as quite valuable — possibly because the way educational technology is currently being used significantly favors those with high-speed access.

First, students with high-speed connections reported the following experiences:

- more frequently accessing online materials
- fewer impediments to their use of technology
- more positive attitudes toward educational technology

Second, many students recommended getting high-speed access connections to access class materials. When asked what advice they would give to students new to instructional technology, typical responses included the following:

“A lot of the materials will take way too long to load on a dial-up connection.”

“Remote access ... is very slow and it takes a lot of time to search for the required materials.”

“Find ... high-speed Internet access.”

### Attitudes toward instructional technology

Question 9: Please rate each of the following statements ■ (On a four-item Likert scale, from strongly agree to strongly disagree.)

We constructed several questions in this format by referring to Chickering and Ehrmann’s “seven principles” of good instructional practice; see <http://www.tltgroup.org/programs/seven.html>. These included questions that asked whether instructional technology helps students to have more contact with their instructors or makes it easier to work with other students.

Overall, student attitudes were very positive. Online libraries resources that introduce students to technology got the highest ratings. The interactive aspects of technology and the actual incorporation of technology into study habits were rated somewhat lower, but still positively by more than 50% of students.

The percentage of students who agreed or strongly agreed with the item in question included:

- online libraries make research convenient: 87.7%
- new instructional technology is easy to learn: 83.5%
- new technology is easy to integrate into my study habits: 77.5%
- instructional technology provides more instructor contact: 65.5%
- instructional technology helps me work with other students: 58.5%
- instructional technology makes my studying more efficient: 58.5%
- instructional technology gives me control over learning: 54.8%

## Impediments to the use of Instructional Technology

Question 11: To what degree has each of the following factors impeded your use of digital technology in your courses? ■ (Rated on a four-item Likert scale, from very large to very small.)

Strikingly, *nothing* appears to be a very significant impediment to students' use of educational technology. For every option save one, at least 70% of respondents indicated that the factor in question was a small or very small impediment to their use of digital technology.

The percentage of students who rated the item in question a large or very large impediment included the following:

- instructors don't use instructional technologies: 40.2%
- cost of hardware/software: 30.1%
- time needed to learn technology: 21.6%
- problems with primary computer: 20%

## Priorities for spending technology fees

Question 8: Thinking about how you would like your technology fees to be spent, please rate the importance of each of the following items ■ (On a four-item Likert scale, from very important to very unimportant.)

Most students responded that computer lab hardware and software are was one of their top priorities. However, since their responses to other survey questions indicated that they were quite satisfied with campus computer labs, this may not be a criticism of the labs' present condition, but a priority preference for the future.

Students also indicated that they wanted course technology to be improved (course Websites, WebCT software, e-mail, etc.). This is notable, particularly in light of their answers to question 11 (see above) about impediments to their use of technology.

The percentage of students who rated the item in question important or very important included the following:

- improve lab hardware: 76.2%
- upgrade lab software: 74.4%
- improve course technology: 72.8%
- tech support for students: 72.2%

## Advice to other students

Question 15: What advice would you give to a student using Web-enhanced courses for the first time?

Several distinct themes emerged from students' answers to this question, including the following:

### *Keep your chin up.*

- "Don't worry if you at first feel overwhelmed."
- "Just keep trying and you'll begin to figure everything out."
- "If I can do it so can you!"

### *Don't slack off.*

- "Make sure you keep up with the work and don't fall behind."
- "Don't procrastinate."
- "Don't wait until the last minute."
- "Do not just blow it off."

### *Ask for help when you need it.*

- "Look for help and technical support; it is available."
- "Don't be afraid to ask questions if you don't understand how something works."

### *Learn to use the technology; it's worth it.*

- "Take advantage of the Web! It decreases stress when class cannot be attended."
- "Don't become too frustrated as it is a privilege to be able to access school info from elsewhere."
- "You may even really enjoy using the computer more than spending time in class."

## Other highlights

Other notable results from the survey include the following:

- students who have taken at least one course where a WebCT site was used: 79.3%
- students who have taken at least one course which was supplemented by online interaction: 82.7%
- students who found WebCT sites useful or very useful when doing their coursework: 66.6%
- students who found non-WebCT Websites useful or very useful when doing their coursework: 47.2%

## Next steps

Our plan is to conduct the student survey on a biannual basis in order to gather longitudinal data about University of Minnesota students. Information about changing patterns in students' experiences with and attitudes toward educational technology should prove helpful for the administration and delivery of technology-enhanced learning programs of all sorts.

We will supplement the student survey with a survey of University of Minnesota instructors. This survey is intended to collect information about instructors' aspirations in the area of educational technology, about the barriers they face and the successes they have had, and about their preferred ways of learning about new technologies.

## Credits

The survey was designed, constructed, delivered and analyzed by the following individuals:

- Linda Jorn, Digital Media Center
- Melissa Martyr-Wagner, College of Liberal Arts
- Laura Molgaard, College of Veterinary Medicine
- John Sonnack, College of Human Ecology
- Tina Stavredes, College of Education and Human Development
- Ray Voelker, College of Education and Human Development
- J.D. Walker, Digital Media Center

For more information, contact:

- Linda Jorn, Director, Digital Media Center, 67 Norris Hall, 612-624-7320, ljorn@umn.edu
- J.D. Walker, Instructional Multimedia Consultant, Digital Media Center, 67 Norris Hall, 612-624-1097, walker@boombox.micro.umn.edu

■ J.D. Walker, Digital Media Center

## Upcoming TEL Seminar

**W**hen: October 23, 2001,  
Tuesday, noon–1:30 p.m.

**W**here: 3-180 EE/CSci,  
Minneapolis, East Bank

**W**hat: Visualization Modules  
for Use in Undergraduate  
Geoscience Education

**W**ho: Kent Kirkby, Paul  
Morin, Department of  
Geology and Geophysics, The  
Newton Horace Winchell School  
of Earth Sciences, Institute of  
Technology, Twin Cities

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More information is  
available on the Web at:  
<http://explore.geo.umn.edu/vis>

Kirkby and his team created a series of visualization modules that utilize HTML frameworks to access geologic data stored on a CD-ROM. These programmed frames or contexts display subsets of data according to spatial and/or temporal parameters that the user controls, making them ideal devices for the following educational activities:

- demonstrating concepts in lecture-based courses
- supporting laboratory assignments by enabling students to see the results of changes in environmental variables
- enabling students to learn or review concepts in a self-paced setting

In this presentation, Kirkby and Morin will discuss ongoing developments related to this project, including the following:

- the evaluation and revision of pilot modules related to the Ice Age and geodynamics
- the development of several new modules such as those related to earth systems and planetary geology
- the use of these modules at other colleges and universities related collaborative development projects with institutions throughout North America

# Telephone System Upgrade Project

Update and Status Report, Fall 2001

## Cutover and conversion phase



The cutover and conversion phase of the Telephone System Upgrade will begin on October 19, 2001. In order to minimize any disruption to University business, this activity is scheduled for weekends, starting Friday evenings after 5 pm. Each weekend, approximately 2,000 telephones will be converted to the new system. Dial tone will be lost to these telephones for some part of the weekend. All active telephone features will remain unchanged.

## Caller ID is here

The much-awaited feature of Caller ID from off-campus will gradually be activated after each conversion. Caller ID is offered by the originating call and their local telephone company, and it may not always be available to the called party.

## Next 14 months

Throughout the next 14 months, every part of the Twin Cities campus will be upgraded and moved to the new system. Complete installation and acceptance is expected by December 2002.

Most of the remote sites, Fiber Extended Nodes and the central equipment are in place and undergoing rigorous testing in preparation for the cutover. New cabling for expanded traffic support is now in place. Additional hardware to enhance special features such as the Automatic Call Distribution (ACD) service and Interactive Voice Cards will be implemented and tested after the conversion in each part of the campus.

## New single line telephone sets

The new single line telephone set chosen for replacement of all single lines sets is the SCITEC telephone. This phone was selected among several state-of-the-art single line telephone sets that provide Caller ID Display, Built-in Speaker and a Voice Mail Light. Additionally this phone has built in feature buttons (similar to the existing ITE4) and programmable buttons (like the Panasonic Easa phone).

The SCITEC is currently used in the hospitality industry and will be uniquely customized in color and format for the University of Minnesota, Office of Information Technology; 14,000 new phones are now on order for this phase of the project.

## Technical support

Training for technical support and maintenance personnel has been conducted throughout the summer and will continue for the duration of the project.

Special information sessions were also held on campus to provide the University Community with details of the project and expected impact on individual users. Prior to the replacement of multi-line sets, group voice mail messages were sent to each building to alert individual users personally of the change scheduled for their office telephone equipment. We are providing further communication regularly to all staff and faculty with each segment of the project. The Technical Assistance Center of Networking and Telecommunications Operations has provided constant support during the audit and the multi-line equipment changes.

## Housing and dining facilities

Special effort is being given to all housing and dining facilities to schedule cutover times best suited to the needs of the residential halls.



## Your cooperation has been invaluable

The generous cooperation and support of the campus community has been invaluable in this project. For more information, news and announcements or weekly building upgrade lists, check the project Website at: <http://www.umn.edu/oit/telephoneupgrade/>

■ Shahnaz Y. Coyer, Telephone System Upgrade Project

# We've Come a Long Way in Twelve Years

Nancy K. Herther, University Libraries, <http://www.lib.umn.edu>

**In 1989** the World Wide Web was nothing more than an idea of Tim Berners-Lee which he subsequently proposed to CERN. The Intel 80486 was the state-of-the-art processor and Seymour Cray began development of the Cray 3 computer.

There were barely 100,000 Internet hosts in 1989, and it was still two years before the University-developed Gopher would be released. The Library's online catalog was a Telnet-based system with a few Telnet databases and no access or links to other content. The Libraries owned a handful of CD-ROMs that were only accessible to users from stand-alone PC workstations in various libraries on campus.

It was also in 1989 that Tom Shaughnessy came to Minnesota from the position of Director of Libraries at the University of Missouri-Columbia. He came to lead an established library system in a very complex public university system. At the end of this calendar year, Tom will leave the University. We can only hope the next University Librarian will be able to move forward on the many efforts and accomplishments that Tom has initiated in the past twelve years. This has, indeed, been an era of enormous change, both for the University and for the Libraries.

Today the Web is the key organizing force for library development. We have over 110 million Internet hosts and over 31.2 million Websites to reckon with. Computer devices permeate every aspect of our society and our world. Our library's electronic collections and access to Web-based information have grown dramatically.

Let's take a look at all of the changes. I think you'll be amazed at how much things have changed in 12 years!

## The times are a' changing

The degree of change that our Libraries have experienced in the past twelve years is staggering. Not only have the Libraries followed national trends but the University Libraries is a national leader in the application of new technologies to the provision of library services and information resources.

The University Libraries have been instrumental in the development and implementation of the CIC (Committee on Institutional Cooperation) Virtual Electronic Library. This one-stop access to the library catalogs of all of what once were called the "Big Ten" universities includes links to order interlibrary loans of materials with no additional steps or work.

The Libraries have received over \$2 million in federal, state and private grants over the last ten years. These grants support demonstration, research and service initiatives in distance education, digitization preservation and access, user services and interface design and training and instruction. The University of Minnesota Libraries is a national leader in providing online bibliographic access to its collections.

Have you visited our Web page lately? The Libraries have worked to create a wide and rich variety of electronic services for our community. Here is a sampling.

■ **Electronic services** such as electronic reserves, electronic forms for interlibrary loans, renewal and recalling materials, etc. are now available at a touch of a button to users from their offices, homes or across the globe.

■ **Research QuickStart** is a wizard-like tool that generates dynamic Web pages for over two hundred subjects. Students can use Research QuickStart to first select a subject, then access a selective list of subject resources chosen

by librarians who are information experts in their discipline.

■ **QuickStudy** is a Web-based tutorial that teaches students information literacy skills necessary for research in the University Libraries and on the Web. QuickStudy's eight modules contain lessons on a variety of topics, including designing a research strategy, conducting an effective keyword search, evaluating Websites and citing sources. QuickStudy lessons also contain exercises and quizzes to help students practice what they have learned.

■ **CourseLib**, an authoring tool for creating customized library pages has been released this summer as a tool and method for generating customized Web pages that support the library research components of academic courses. The CourseLib tool is unique because it provides an easy authoring environment, does not require knowledge of HTML and utilizes templates in the formation of customized course pages.

■ In November, 1998 the Libraries launched **InfoPoint**, a digital reference service designed to serve the needs of distributed learners located anywhere and accessing the library at anytime. InfoPoint provides users with a single access point to over 30 reference service units within the Libraries to obtain answers to their reference questions via e-mail and Web formats. The InfoPoint staff have also implemented technology-based "after hours" information services that run via an internally created and growing FAQ database.

*Let's not forget  
our electronic resources.*

The University Libraries currently have over 9,000 eJournals in MNCAT, and over 14,000 cataloged ebooks and electronic versions of government reports and other materials. Of our nearly 200 online databases and indexes available through LUMINA, one-

fourth include at least some full-text. We have over 3,400 CD-ROM indexes and reference materials spread throughout the Libraries; and our Web page has over 300,000 visitors per day.

These resources developed by University of Minnesota Libraries' staff are also worth noting.

- **DRUGINFO Database** indexes and abstracts literature on alcohol, tobacco and other drug use/abuse.
- **Health & Medicine in the News**, provides access to the journal literature or abstracts cited in articles found in the Minneapolis Star Tribune.
- **HealthWeb's** links to high-quality health-related Internet resources.
- **Plant Information Online**, an award-winning, subscription-based online service that accesses information useful in the plant sciences, especially gardening, horticulture and botany. The database contains the largest listing of currently cultivated plants of North America.

### *And that's not all!*

- **Social Sciences in Forestry** is a major, respected database that indexes publications in 41 subject areas relating the social sciences to forestry.
- **AgEcon Search** is a Website developed at the University to collect, index, archive and distribute full text papers of agricultural and applied economics scholarly research. The project began in 1996 with an attempt to bring order and electronic access to a particularly difficult literature: working papers produced by agricultural economic departments in more than 30 US universities.
- To promote interoperability and campus-wide searching for digital images, the University Libraries has developed a prototype **IMAGES** site. Using this gateway, online users can discover images created in projects across campus. IMAGES will expand this year to include textual, cartographic and multimedia content.

### **Physical changes**

In April 2000, the University dedicated the Elmer L. Andersen Library, located in the center of the campus. This facility brings eight major archival, rare books and special collections together in a building designed to support research and scholarship and the mining of these nationally renowned collections.

The funds for the new Andersen Library provided for the excavation of two enormous caverns directly under the library. Both are climate controlled and will provide an ideal environment for the preservation of documents and media. One cavern is dedicated to the archives, rare books and special collections, while the other serves as a statewide storage facility for important but seldom used collections. Libraries of all types in Minnesota are invited to deposit materials in the cavern and need not relinquish ownership. More than 1.2 million volumes may eventually be stored in high density shelving arrangements in the second cavern, which is named the Minnesota Library Access Center (MLAC).

Major renovation to the Walter Library as well as changes and upgrades to other libraries have taken place in the past twelve years. Many believe this legacy of building and facilities is perhaps Tom's finest lasting contribution to the University and its libraries.

### **Planning for the future of state-wide services**

The University Libraries, led by Tom Shaughnessy, have been leaders in getting legislative funding and state-wide cooperation for the MnLINK Project. MnLINK will provide a statewide electronic network to allow users to search catalogs and databases and place unmediated requests for resources from any library; and it will provide a replacement of the integrated library systems of all of the state's libraries that receive state funding. In the coming year the impact of this will become more apparent, not only here on campus, but to all Minnesotans across the state.

### **That's just the beginning**

What will Tom Shaughnessy's tenure be remembered for most? Any of the amazing accomplishments described above would be plenty to boast about. However, I think Tom's chief accomplishment has been the change to the library's very atmosphere brought about by his professional and personal presence here on campus.

I came to the University Libraries in 1985 and found an organization that was very static and tightly top-down. Coming from the private sector and work as a public librarian, the atmosphere often felt stifling. The Libraries had a superb staff and a wonderful reputation for services and collections, but something was missing.

I will never forget Tom's first talk with staff. His theme was the customer is always right. That strong belief in service has been the hallmark of his administration. He trusts the instincts of his staff, works tirelessly to serve all patrons – even spending hundreds of hours in the past twelve years working himself at reference and information desks throughout the Libraries. He *cares* about users and staff.

He has fought for salary equity for professionals here in the Libraries and has brought salaries far closer to national norms, which has not only helped to retain key staff but to attract many of the fine professionals who have joined our team in the past few years.

Perhaps most of all Tom is a nice guy. Someone you'd enjoy having lunch with or sharing a bagel. His door is always open, as is his mind – open to new ideas, novel approaches or new learning. I'll never forget a visit to his office with my Kindergartner. My son had made his friend Tom a paper airplane and the two spent a wonderful few minutes flying paper airplanes. Would your dean do the same?

■ Communications about this column should be addressed to: Nancy K. Herther, Social Sciences Bibliographer, 170b Wilson Library, West Bank; n-hert@umn.edu; 612-624-2020.

▼ Help

Phone: Area Code = 612

Computer Misuse or Abuse (also see Procedure 2.8.1.1)

- Emergency Network Help Line ..... 625-0006
- Non-emergency, e.g., spamming: abuse@umn.edu

1 Help • 7/24/365, unless otherwise noted ..... 301-4357

- Passwords: new and forgotten ones
- CCO: central systems, PeopleSoft
  - Web: http://www.umn.edu/cco
  - by email: x-help@cafe.tc.umn.edu
- Internet, Email, Microcomputers, Distributed Systems
  - call-in Monday–Thursday • 8 am–11 pm
  - call-in Friday • 8 am–5 pm
  - call-in Saturday • noon–5 pm
  - call-in Sunday • 5 pm–11 pm
  - walk-in 8 am–5 pm, M–F: 152 Shepherd Labs; 93 Blegen Hall; 50 Coffey Hall
  - Web: http://www.umn.edu/adcs
  - by email for U of M: help@tumn.edu
- NTS: Networking and Telecommunications Services
  - Web: http://www.umn.edu.nts

▼ Dial-in Computer Access

Internet/PPP/SLIP: up to 56kps if v.90 ..... 612-627-4250 (56k K-flex, Flex56, X.2 protocols are unsupported)

▼ Quick Guide

- Internet/Email account management/validation/modem use  
http://www.umn.edu/validate
- MNCAT/LUMINA (Library) – http://www.lib.umn.edu
- Office of Information Technology  
http://www.umn.edu/oit
- Onestop Services – http://onestop.umn.edu
- TechMart – http://www.techmart.umn.edu
- Technology Training Center  
http://www.umn.edu/adcs/info/training.html
- UM News Servers – news.tc.umn.edu, news.umn.edu

.....

- Threats, UM Police Department ..... 911 on campus
  - off campus..... 624-3550
- Computer Accommodation Program – voice/tty... 626-0365
- U Computer Services/Computer Repair Serv ..... 624-4800
- Statistical Software Support: including SAS and SPSS ..... 624-3330

Associate Vice President and Chief Information Officer, Steve Cawley ..... 612-625-8855

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Twin Cities campus address label trivla: the 2nd number after the Rec# is the Campus Mail delivery code, http://umn.edu/lookup

Oct.2001 [pantone295,1205]

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Change Address

Change Other

Add

If you cancel or change a campus address, please tell us the Rec#. Just tear off the end page and send the entire mailing label to us. Or send email to: oitnsltr@umn.edu

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