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Information Technology

Newsletter

Evaluating Technology Enhanced Learning: Realistic Research Questions, Methods and Tools

J. D. Walker, Paul Baepler, Digital Media Center

Is it worth it?
Are we helping?
Did anybody learn anything better or more effectively with technology?

These are questions many people, from state legislators through university administrators to teachers themselves, have been asking recently about technology-enhanced learning (TEL). Digital technology is increasingly pervasive in educational settings, but the systematic documentation of its effects on student learning has lagged.

As part of an effort to fill this gap, staff from the Digital Media Center (DMC) have designed a workshop on the evaluation of TEL for University of Minnesota instructors. The pilot workshop was taught on March 5, 1999, and included sections on:

- the conceptual background of educational evaluation
- the research tools available for evaluators
- diverse examples of successful evaluation projects undertaken at higher education institutions in this country, Canada, and the United Kingdom
- the process of formulating useful research questions and selecting an appropriate research methodology
- an introduction to the Flashlight Project

Research Questions

One important goal of the workshop was to help participants define illuminating yet realistic research questions. Examples of good research questions included the CALOS project at the University of British Columbia. This study, conducted by computer science professor Murray Goldberg, attempted to assess differences in student achievement of learning goals that could be traced to educational uses of technology. The relatively formal methodology involved the division of a large operating systems class into web-only, lecture-only, and both web and lecture sections, and the comparison of student achievement in the three sections. In this study the combination of delivery methods appeared to have optimal effects on student learning.

Qualitative research methods were used by Professor Theresa Redd of Howard University in her study of the effects of long-distance email critiques on her composition students' writing. She wanted to determine whether her (mostly black, urban) students' essays on racism could be made deeper and more nuanced through the need to accommodate a critical audience. Redd found such an audience in a class of (mostly white, rural) art students at Montana State University. While most of her students were led to accommodate their audience, and hence to deepen and improve their essays, some failed to grant them sufficient authority for this to occur.

Finally, in an effort to determine whether and how graduate students are integrating technology into the ways they were thinking about pedagogy, Digital Media Center staff asked participants in the DMC's TA Web Certification Program to write their teaching philosophy vis-a-vis technology. Preliminary indications show a strong understanding of how to implement web technology in ways that augment learning. Teaching Assistants seem to be quite savvy about using computer mediated communication effectively to deliver supplemental materials and provide student-centered discussion forums. DMC staff have been impressed with how TAs have designed their lesson plans around students' learning needs rather than introducing technology into the classroom for its own sake.

The Flashlight Project

The workshop included information on the use of the Flashlight Project's Current Student Inventory (CSI),

Figure 1: About the Flashlight Project

The Flashlight Project can be accessed by the University community in several ways:

- The Current Student Inventory (CSI) can be found on-line at <http://www.umn.edu/dmc/create/resources.shtml>
- A handbook containing essays by Steve Ehrmann, director of the Flashlight Project, and the CSI questions are available to members of the University of Minnesota community for a \$10 printing fee by calling Deborah Bangs at 612-625-1300. (In Duluth call Linda Deneen, 218-726-7588. In Crookston call Kathe Lemmerman, 218-281-8679. In Morris call John Bowers, 320-589-6397.)
- Ehrmann's essays and the CSI questions are available on floppy disk in rich text format for a \$1 fee; call the numbers above.
- Many of Ehrmann's essays are on-line at: <http://www.tltgroup.org/flashlight/FLbackground.html>

a tool designed to help instructors who use technology in their teaching to assemble focused and useful student surveys. The University of Minnesota has recently purchased a site license for the CSI; and this resource is now available to the University community; see Figure 1.

The Flashlight Project was developed by the Teaching, Learning and Technology affiliate of the American Association for Higher Education. The Current Student Inventory, one of several "inventories" under development, has gained popularity in recent months. The University of Wisconsin and University of Iowa have also purchased site licenses to the CSI; and the Digital Media Center staff is investigating ways in which the University can share evaluation strategies with these institutions. Already, Washington State University, Mount Royal University, and Indiana University/Purdue University have conducted successful Flashlight investigations on their campuses.

A second tool, the Flashlight Cost Analysis Handbook, will be published soon. This handbook will help investigators design models of how programs use money, space and time. Later in 1999, the Flashlight Program will also introduce a Faculty Inventory tool kit and a system for creating studies on-line. All of these efforts are directed toward gathering information about the interaction of faculty and students in the digital classroom.



Other Tools and Methods

Researchers at the University of Glasgow's Teaching with Independent Learning Technologies (TILT) project have developed a diverse group of evaluation tools, including confidence logs, learning resource questionnaires, and knowledge quizzes. They attempt to practice "illuminative evaluation," an approach inspired by ethnographic methods that calls upon open-ended methods to cull unforeseen factors and issues important to students. (TILT materials are on-line at www.elec.gla.ac.uk/TILT/E-Eval.html.)

Less orthodox research methods were also showcased in the evaluation workshop. Assessment in the DMC's TA Web Certification program was conducted in part through an "unfocus group." Students in the class were provided with a video camera and asked to film

each other's spontaneous reactions to the class. The group dynamic that resulted from this approach yielded illuminating responses based more on a consensus model than one of solitary students evaluating a class in isolation. As we delve more deeply into evaluation research methods, everyone seems to learn that there is no single "correct" method for assessing the learning in a classroom, and that teaching innovators must be as innovative when evaluating their hard work.

Next Workshop: June 2nd

The new and improved version of this workshop will be offered on June 2, 1999. Interested parties will find more information in the *Technology Enhanced Learning* section at: <http://training.micro.umn.edu/training>

Update on FY00 Networking and Telecommunications Services Rates

Office of Information Technology and the Office of Budget and Finance

Throughout higher education, it's becoming increasingly obvious that a high-quality, reliable technological infrastructure is an absolute necessity. Students expect and require computer labs and networks for their coursework; faculty need access to on-line resources and high-tech classrooms; staff must have reliable consistent data on demand via their desktops in order to efficiently deliver services. Universities lacking such facilities will no longer attract the best students or faculty, or research dollars.

Developing and funding the University's ever-expanding technological infrastructure presents an ongoing challenge. As demand for and use of digital and phone networks, the modem pool, and high-tech classrooms increase dramatically every year, OIT is working hard to build and support this needed infrastructure. And the University's budget office and governing bodies are working equally hard to determine how to pay for it all.

That was Then, This is Now

In the past, the University relied on central funding from the legislature, plus tuition income, plus fees collected from service departments to cover the costs associated with infrastructure services.

Now however, under the University's current funding model (called Incentives for Managed Growth or IMG), colleges retain tuition revenues. Thus, at a time when the system-wide infrastructure used for the University's 'common good' is more important and widely used than ever, there is less funding directly available. Thus, the colleges and departments using these services may need to share in the costs of these common good items.

Improved Services = Higher Shared Costs

Central funding was available in FY99 to cover operating and capital costs of certain infrastructure items such as lines to

coordinate campuses, next generation of on-campus computing network, video conferences, video classes, and the student-use portion of the modem pool. The costs of providing these 'common good' services are higher than ever due to increased use, improved services (i.e., more and faster modem lines, replacing the voice mail system), inflation, and building construction costs. As a result, the FY00 rates for services provided by Networking and Telecommunications Services (NTS) are expected to rise from FY99 levels.

OIT and the Budget Office have been working together to develop options to keep the NTS rates as low as possible and to have minimal impact on departments and users. At this writing, FY00 rates have not yet been established; however, rates information will be distributed as soon as decisions are made and the rates are approved.

■ Jodie Berg Combs, Office of Information Technology

The Enterprise Systems Project

Web Development Team

Bringing Self-service Convenience to a Computer Near You

Michael Handberg, Director, Web Development Team

While the PeopleSoft software will give us an integrated database with more accurate, up-to-date information, web access will allow students and staff to use and update some of that information much more conveniently. That's the job of the ESP Web Development Team, a much expanded group of staff who developed the current student self-service Web Registration System and much of the original University website under the direction of the Office of the Registrar.

Now reporting to the Office of Information Technology and grown to include 29 designers, developers, usability experts and support staff, the team is responsible for building several self-service applications that interact with PeopleSoft.

Replicating Current Registration Functionality

Some of these projects replicate the existing web functionality, but now supported by the PeopleSoft database instead of one of the 20+ systems that PeopleSoft replaces.

These projects include web versions of the *Class Schedule* and *Course Guide*, course planner, course search engine, view enrollment appointment, view holds, section status reports and, of course, web registration.

Developing Exciting New Uses

Among the new web self-service projects on the front burner are the virtual One Stop Center, the Learning Portfolio, and Employee self-service functions.

✓ *The Virtual One Stop Center*

An essential part of the Student 2000 Project and Web Development vision is the ability to answer questions or solve problems in "one stop."

Several "real world" One Stops are up and running — at UMD, Coffey and Fraser halls, and the West Bank Skyway — where staff have been cross-trained to deal with most of the questions that prospective and current students have. In early April the virtual One Stop will appear at: <http://www.onestop.umn.edu>

▼ Navigating the Web Development Process: Help is on the Way for Departments

Scott Lindgren, Enterprise System Project Web Development Team

The ESP Web Development Team just hired an e-Business Manager, essentially a liaison between a department and the web developers. The new staffer, Kari Branjord, will help business customers define their needs, analyze workflow, and prepare for deployment. The result is a web solution that is integrated with

the customer's specific business process. The e-Business Manager will also ensure that knowledge transfer occurs and the newly learned expertise stays with the business group.

Branjord may be contacting you over the next month or so to explain the process further.

Presently several new projects are in the queue for development.

If you have question or comments, or if you would like to schedule time with Kari Branjord, you can contact her at 612-626-0393 or email her at branj002@tc.umn.edu ■



✓ *The Learning Portfolio*

The Learning Portfolio is an electronic multi-media collection of a student's work, educational philosophy and goals, letters of reference or commendation, and other material about themselves that students would want to create and maintain on-line. Students could give permission to advisors, faculty or employees to access their Portfolios to access performance, experience and skills.

The Web Development Team and the Minneapolis Public School System have asked the legislature to fund a joint project to develop Learning Portfolios at the high school level.

✓ *Update Employee Demographic Information*

Before long, faculty and staff will have the ability to view and update some information about themselves via the web. This information includes birthdate, ethnicity, Social Security Number, legal name, gender, citizenship, education level, military status, preferred name, Veteran status, addresses and multiple phone numbers. Staff will also be able to suppress all or part of the basic demographic information that appears in the *Directory*.

Future enhancements will enable employees to handle personal information related to benefits and

payroll. The information will be accessed with Internet ID and password. (Internet ID is the new name for the username and X.500 labels.)

More Enhancements to Self-service Web Capabilities

Most important to both the Web Development and Student 2000 teams now is that students have the same level of service from the new system that they currently have. Once the PeopleSoft and web systems are stable, staff will develop additional bells and whistles.

For more information, contact Scott Lindgren at lindg004@tc.umn.edu or call 612-624-8212.

Other ESP Events

- The Student 2000 Project implemented the second piece of the Financial Aid module, loading federal financial need records and readying the system to package loans.
- Parts of the Student Self-service Web went live at UMD on March 16, including Course Schedule, Course Guide, Course Search Engine, View Enrollment Appointment and View Holds.
- Registration goes live at UMD on April 5, both the Web registration system and the underlying PeopleSoft system. ■

Internet ID: the new name for the username and X.500 labels.

Below is one example where this new label is used.

Internet Login

NOTE: You must have cookies enabled in your browser in order to use this service.



Enter your University of Minnesota Internet ID and password:

Internet ID: Password: Login

**To access the login screen shown here, you can go to this website:
<http://www.umn.edu/validate>**

Java and Web Services

<http://www.jaws.umn.edu>



What is JAWS?

JAWS, a group within Academic and Distributed Computing Services, provides faculty, staff, students, departments and organizations with cutting-edge World-Wide Web and Internet technology. JAWS has extensive experience developing state-of-the-art websites which often include features such as forms, databases, email options, e-commerce and live video.

Services for New Websites

J Web site design

JAWS can create well organized and user-friendly websites using extraordinary images, thoughtful layout, and cool effects that will grab the attention of your audience and encourage them to visit your website often. Currently there are 18 experienced developers and 2 graphics artists on the JAWS staff.

J Web databases and on-line forms

Add functionality to your site. JAWS can produce anything, from simple email forms to web-based database applications, security options, on-line purchasing, and more. Just describe what your ideal website would do, and JAWS will come up with a solution.

J Streaming video and audio

The newest technology! JAWS can transfer your videotapes into a digital movie that can be viewed from your website.

J Electronic commerce

A state-of-the-art tool that allows customers to securely purchase your goods or services using the Internet. This is often called e-commerce.

Services for Existing Websites

J Website hosting

Once your website is created, you need to place it on a server for others to access. JAWS can add your website to the ADCS Web Hotel which is monitored 24-hours-a-day, 7-days-a-week. The JAWS servers provide high-speed Internet connections, daily data back-ups, and emergency power supplies to ensure your website is always available.

J Website maintenance

JAWS can update and edit your website at **your** convenience. You can send website changes via email; or, if you prefer, a JAWS consultant will visit your department and revise your website.

J Maintenance training

If you prefer maintaining and editing your own site, JAWS offers various training options. JAWS can send a consultant to train your technical staff on text and editing change options.

J Website counters and statistics

This valuable tool allows you to view how many people have visited your website.

Below are a few of the websites JAWS developed and/or maintains.

J Plant Information On-line

U of M Libraries, Andersen Horticultural Library, Minnesota Landscape Arboretum
<http://plantinfo.umn.edu/arboretum>

J Computer Lab Reservation System

College of Liberal Arts (CLA)
<http://www.lrs.umn.edu>

J Electronic Grants Management System (EGMS)

Grants Management, Office of Research and Technology Transfer Administration (ORTTA)
<http://nirvana.ortta.umn.edu>

J Financial FormsNirvana

Financial Systems Support (FSS)
<http://nirvana.fss.umn.edu>

J UNITE

University Industry Television for Education, Institute of Technology
<http://www.unite.umn.edu/streaming-video>

Website: <http://www.jaws.umn.edu>

Email: info@jaws.umn.edu

Phone: 612-626-8800

■ Renee Wright, Academic and Distributed Computing Services



A Reference Bookshelf at Your Fingertips!

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

LOOK AROUND your workstation and you'll probably find dog-eared copies of directories, thesauri, dictionaries or other important reference works. I know that I do.

You also have another critical resource. From the Libraries' LUMINA web page click on **Reference Sources**. You will find a wealth of important, useful tools to help you as you write a letter or paper, order books for your classes, check out a zip code, get a quick statistic or check a style manual for information on citing some resource.

Let's take a look at some of the options you have.

Reference Sources

Libraries staff constantly monitor the web for resources which might be of value to you. For exhaustive coverage of resources available on any subject, check out the **Subject Resources** section in LUMINA.

In the **Reference Sources** section you have access to a selective listing of key resources in over 30 areas, from abbreviations to zip codes. Since the list is constantly being updated and enhanced by our staff, you will want to spend some time on your own looking at the various resources and finding the ones that would be most useful to you.

By clicking on any of the general topics listed here, you will get a refined list which includes the links to resources across the web. Some of these resources are available to anyone; some are only available to current students, staff and faculty of the Twin Cities campus of the University of Minnesota because of specific contractual terms that we have with the individual vendors.

What is TESOL?

▼ See Abbreviations and Acronyms

Do you sometimes find an acronym or abbreviation that you cannot make sense of? Click on the **Abbreviations and Acronyms** option and you will get the link to the World-Wide Web Acronym and Abbreviation server. A form comes up asking what you need to search. By typing in **tesol** the database quickly came up with the dual answers of: Teaching English (to) Students of Other Languages and Teaching English to Speakers of Other Languages. In seconds I had the information that I needed. This database includes nearly 18,000 acronyms, so it may be all the reference that you may need in your daily work.

Where is SIGMA XI?

▼ See Associations

Ever need to get quick information – addresses, phone numbers, web addresses – for some organization? Check out the **Associations** section, and you will be linked to three sources. I selected the **Associations On-line Directory**, typed in **sigma xi** as the search term and immediately was transferred to the Sigma Xi web page, which includes contact information, news and chapter information.

Who's on First?

▼ See Biographies

Want to check out some famous, or not so famous, person? Under **Biographies** you have access to three key resources that can be used to access information on personalities from all areas of society and from ancient times to the present day. Looking for information on the classic comedy team, Abbott and Costello, I found not only three short biographies but 48 links to Internet sites (gathered by Britannica **WHO SAID THAT?**)



LUMINA is the on-line computer system of the University of Minnesota Libraries–Twin Cities, and includes MNCAT, the catalog of most of the books and periodicals in the Libraries' collections. Access to MNCAT is available free of charge with no password. Due to contracts with commercial vendors, many of the other databases available through LUMINA may be accessed only by University of Minnesota faculty, staff, and students; this restricted access also requires a campus e-mail username (ID) and password.

Who Said That?

▼ See Quotations

Need a funny quotation to complete your speech? Trying to find the source of some famous saying? In the **Quotations** section you will find links to on-line databases of quotations.

I found this interesting prediction from *Popular Mechanics*, March 1949: "Where a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and perhaps weigh 1-1/2 tons." So much for the art of prediction.

Ordering New Books?

▼ See Books and Book Reviews

Whether you are looking for a good book to take on vacation this summer or ordering books for your classes, you will want to check out the **Books and Book Reviews** section. This includes a link to the completely revised and very user-friendly *Books in Print* (BIP) database from the University Bookstores. BIP lists "all in-print and forthcoming titles—some 1.6 million—from more than 46,000 publishers currently published or distributed in the United States." You can easily search by author, title, ISBN or publisher. A new improved browsing capability for subject searching is a significant enhancement to the database. This section also includes links to the *New York Times Book Review* archive and to guides on how to find book reviews in Wilson Library.

Information Please!

▼ See Statistics

Need to check out some basic statistics? Under the **Statistics** section of **Reference Sources** we have a variety of useful compendia of statistics for you to use: 1990 Census, *County and City Databook*, portions of *Information Please Almanac* and *the Statistical Abstract of the United States - 1997*. In seconds, I was able to get population data on cities around the world and trade information on commodity price trends.

More Favorites

- I often use the full-text of *Encyclopedia Britannica* available through the **Encyclopedias** option.
- **Directories** will get you access to email and telephone numbers for people across the state or around the world.

- **Internet Search Engines** is a quick way to get at the variety of web search engines that you may want to use for your personal web surfing.
- **Colleges and Universities** will get you to the websites for higher education worldwide.
- **Weather** will give you information on current conditions anywhere on the globe.
- **Dictionaries and Thesauri** are good choices for any writer or researcher.

Integrating Reference Works with Computer Programs

Microsoft has been one of the obvious leaders in this area. In March 1989, I was one of the writers invited to a hotel ballroom in Seattle to see a beta version of what would become Microsoft Bookshelf. An ambitious project, this crude software program took CD-ROM and software into whole new directions of integration and usefulness. Being able to look at addresses or zip codes and put them into an open document, cutting and pasting from one program into another, are commonplace today. But ten years ago, it was truly revolutionary.

Today, through the Libraries' LUMINA interface, our web page is also able to take you further than any library of the past could hope to. No longer must you come into a physical 'library' in order to do your research, look for information or seek assistance. Our LUMINA is intended not only to be a catalog of resources but a productivity tool for researchers, teachers and students alike.

Take a look at **Reference Sources**, along with the other features in LUMINA, and I think you'll want to bookmark these for your daily work! The Libraries is constantly seeking ways to improve and enhance all our information services and products. If you have ideas to share, feel free to send us a comment through our web page, one of our reference service points or contact me. Happy hunting!

■ Communications about this column can be sent to: Nancy K. Herther, University of Minnesota Libraries, 180 Wilson Library, West Campus; 4-2020; n-hert@tc.umn.edu



User Responsibilities for Electronic Resources

No Copy Clearance

Having information at our fingertips is a wonderful way to do research today. The Libraries are proud of the diverse resources — from journals to encyclopedia to entire books — that we have been able to make available to current students, staff and faculty of the University through our website: <http://www.lib.umn.edu>

Along with access comes the issue of responsibility for fair use. People sometimes mistakenly assume that since the Libraries has paid for electronic access to copyrighted materials that this means they can systematically copy these without consideration of copyright clearance for classroom or research use. This is simply not true.

A Serious Incident

Recently a very serious incident occurred that we want to share with you. A user accessing our electronic journals, from a location on the Twin Cities Campus, made

a serious violation to our license with one of our electronic journal vendors. Someone accessed these resources and tried to download the contents of six entire, full-text journal issues in PDF, HTML and ASCII formats. (The Libraries, ever concerned with academic freedom issues, are careful not to keep any records linking our users' names to library resources.)

This was considered a serious breach of the copyright law by the vendor who reported the incident to us. In this case, with the cooperation of Networking and Telecommunications Services and concerned faculty, we were able to locate the workstation's IP address and determine that the user was having problems with the interface, so our vendor was satisfied. However, such actions by our users, especially if intentional, could result in our losing access to these resources — or worse, we could face a lawsuit from the vendors and owners of these copyrighted materials.

Terms of Use

We try to make information on the nature of our license agreements and copyright information available in LUMINA along with our resources. Many information providers post their "terms of use" on their website. If you ever have a question about potential use of our materials, please feel free to contact library reference staff. The illegal use of our materials may compromise our access and ability to provide these materials in the future.

We Need Your Cooperation

We thank you for your attention to this. We realize this was an isolated incident, but we need the cooperation of our entire community in order to build our electronic 'virtual library.'

■ Nancy K. Herther, University of Minnesota Libraries, 180 Wilson Library, West Campus; 4-2020; n-hert@tc.umn.edu

▼ More New Ejournals Available

The Libraries now have access to even more journals in electronic, full-text format. For a full listing of available electronic journals, click on the **Electronic Journals** option in LUMINA; or you can access individual titles through **MNCAT Web**: <http://www.lib.umn.edu>

Here are the new titles:

- **American Quarterly**, published by Johns Hopkins University Press, Vols. 1-46, 1949-1994
- **Journal of Symbolic Logic**, published by the

Association for Symbolic Logic, Vols. 1-59, 1936-1994


- **Philosophy and Public Affairs**, published by Princeton University Press, Vols. 1-22, 1971-1993
- **Review of Financial Studies**, published by Oxford University Press for the Society for Financial Studies, Vols. 1-8, 1988-1995
- **Sociology of Education**, published by the American Sociological Association (continues *Journal of Educational Sociology*) Vols. 1-66, 1963-1993

■ Nancy Herther, University of Minnesota Libraries

Year 2000 Information Overload?

<http://www.umn.edu/oit/year2000>

Where to Begin?

 Many of us start by compiling year 2000 information through the Internet. But try typing in “Year 2000” or “Y2K” in one of the many web search engines (i.e. Infoseek, Yahoo, Lycos, etc.), and you will receive over 1,000,000 Year 2000 related hits. With this abundance of information regarding the hot Year 2000 topic, where does one begin?

The Office of Information Technology Year 2000 website is a good place to start: <http://www.umn.edu/oit/year2000>

This site has been designated as the official Year 2000 information source for the University of Minnesota and was created to assist the University community. Whether you are faculty or staff, researcher or student, there is Year 2000 information just for you.

How Do You Find Vendor Compliance Information?

A great place to check vendor compliance information is to go directly to the source. Most vendors have Year 2000 information on their websites. The Office of Information Technology Year 2000 website has a page called **Other Links** that lists the most common hardware and software vendors. These links will take you directly to the vendor’s Year 2000 information.

If you are unable to find specific vendor information through this website, you may want to do a search on the various web search engines. When searching for a specific vendor, it is often less time-consuming to enter the vendor’s name in the search column, not “Year 2000.”

Web search engines are also useful when searching for biomedical and scientific equipment information. If you currently work with grants or research, you may want to check out the information under **Research & Grants** to find out how the Year 2000 may affect your situation.

What Else is There?

Whether you are looking for compliance strategy, testing, contingency planning information or what to do with the Year 2000 survey you just received, check the website for the most current information.

Watch for the NEW! icon.

What’s New?

Additional Year 2000 information is available on the Internet every day. How do you keep up? Our Year 2000 staff reviews the new resources and information daily and adds the quality information or links that affect the University Community to the Office of Information Technology Year 2000 website.

Watch for the **NEW!** icon next to newly added information. Also, check out the **What’s New** page, which lists a history of new or updated information and when it was added to the website.

What About my Home?

We all worry about Year 2000 issues in the work place, but what happens on January 1, 2000, at our homes? What about heat, electricity, emergency services, transportation, etc.?

The State of Minnesota has a specific page called **Minnesota Y2K** that provides Minnesotans with direct links to energy sources, consumer products, environment, banking and finance, food supplies, small businesses, etc. This page is located in the Office of Information Technology Year 2000 **Other Links** section.

If you have any comments, questions or suggestions, please email the Year 2000 staff at y2k@tc.umn.edu

■ Barb Montgomery and Renee Wright, Office of Information Technology Year 2000



CBT DISCOUNTS for Departments

- ? **Have you tried** some of the new 350 Computer Based Training (CBT) training courses yet?
- ? **Are you like** many others who access the courses, but just don't have enough time to finish them in one week?
- ? **Do you wish** you could have your entire staff take series of courses, such as Microsoft Office 97, which includes beginning, intermediate and advanced Word, Excel, Access and PowerPoint?

port, such as user setup assistance and an onsite CBT demonstration for your staff. Table 1 has details on this new option. Visit the ADCS CBT web site for an updated course listing: <http://www.umn.edu/adcs/cbt>

**Table 1: CBT Options for Departments
Access Time is 3 Months**

No. of Users	No. of Courses	Regular Price	Department Discount Price	Savings %
1	10	\$ 250	\$ 188	25
10	10	2,500	1,250	50
10	25	6,250	3,125	50
25	10	6,250	2,500	60
25	25	15,625	4,688	70

Sponsored by Academic and Distributed Computing Services (ADCS), CBT is a cost-effective and convenient alternative to traditional classroom technology training courses.

New 3-Month Option

To meet the needs of the University community, ADCS has extended the course access time from the original one week to three months and is now offering University departments a variety of access options at a discounted price. This service includes additional computer sup-

If you have questions or want to register for a departmental training package, please contact the CBT Administrator at: cbt@umn.edu

When registering, please include the following information:

- number of users
- number of courses; please list all course names
- contact person; include their email address and phone number
- supervisor name; include email address and phone number
- CUFS number

Single User Option

CBT still offers individual options for staff. The cost for a single user to take courses for one week (Monday through Monday) depends on the number of courses. The costs are:

No. of Courses	Price
1	\$ 25
2-5	\$ 50
6+	\$ 100

■ Renee Wright and Jenny Blaine, Academic and Distributed Computing Services, <http://www.umn.edu/adcs/cbt>

Information Technology Newsletter Subscription Request

Hardcopy Request: Add or Change (include mailing label)

Name _____

If University of Minnesota Twin Cities Campus Mail:

■ Use your departmental mailing address. Do not use your personal office address.

■ *Optional:* Include Campus Mail Code: _____

Department _____

Department Mailing Address _____

If U. S. Postal Service:

Address _____

City _____ State _____ Zip _____

E-mail & FAX options:

You can send us your hardcopy subscription requests by fax or e-mail. Fax this subscription request to 612/625-6817. E-mail your request to [<oitnsltr@tc.umn.edu>](mailto:oitnsltr@tc.umn.edu).

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▼ 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@tc.umn.edu
 CCO (BASIS/AIS/CCS), M-F, 7 am–5:30 pm 624-0555
 • central systems: PA, DataWarehouse, PeopleSoft
 • web: <http://www.umn.edu/cco>
 • by email: x-help@cafe.tc.umn.edu

Internet, E-mail and
 Microcomputers and Distributed Systems 626-4276
 • call-in: 8 am–11 pm ← Monday–Thursday
 • call-in: 8 am–5 pm ← Friday
 • call-in: noon–5 pm ← Saturday
 • call-in: 5–11 pm ← Sunday
 • walk-in 152 Shepherd Labs: 8 am–5 pm, M–F
 • walk-in 50 Coffey Hall, St. Paul: 8 am–5 pm, M–F
 • walk-in 50 HHH, West Bank: 1-5 pm, M-F
 • web: <http://www.umn.edu/adcs/>
 • by e-mail for U of M: help@tc.umn.edu

Password: Forgot it?
 • Call the ADCS helpline 626-4276
 NTS-TAC: 24-hour Technical Assistance Center .. 625-0006
 • web: <http://www.nts.umn.edu>

▼ Dial-in Computer Access

Internet/SLIP: up to 56,000 bps at v.90 612 627-4250
 Internet/SLIP (*in transition but still supported*) .. 852-5252
 Internet/SLIP: ADI & ITE (with MKO) 623-0291
 SecurID Access HiSpeed (v.32) 19200-N81 626-1061
 2400-N81(no parity/8 data bits/1 stop bit) 626-7770

▼ Web and Internet Addresses Quick Guide

- Modem Usage (current activity on your account)
<http://www.nts.umn.edu/services/modemusage.html>
- Internet/E-mail account management/validation
<http://www.umn.edu/validate>
- Information Technology Newsletter
<http://www.umn.edu/oit/newsletter>
- LUMINA (Library) – <http://www.lib.umn.edu>
 via Telnet/TN3270: admin.ais.umn.edu
- OIT – <http://www.umn.edu/oit>
- UM Bookstores – <http://www.bookstore.umn.edu>
- UM News Server – news.tc.umn.edu
- UM Twin Cities – <http://www.umn.edu/tc>

▼ General Phone: Area Code = 612

Threats, UM Police Department 911 on campus
 • off campus 624-3550
 ADCS Hands-on Training and Seminars 625-1300
 • self-paced training and customized training
 • web: <http://www.umn.edu/adcs/info/training.html>
 Computer Accommodation Program
 voice/tty 626-0365
 Computer Repair Services/Engineering Serv 627-4525
 Computer Store, Williamson Hall 625-3854
 Digital Media Center 625-5055
 Statistical Software Support:
 including SAS and SPSS 624-3330

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

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