Special Edition

TECHNOLOGY IN TEACHING

From the Editor...

I once read about something called Patt’s Law, where it is said that “technology is dominated by two types of people: those who understand what they do not manage, and those who manage what they do not understand.” I don’t know who Patt is or whether he or she was an educator, but if what we have here is a law, then we can expect it to apply to technology in higher education as well as anywhere else. This special spring edition of Effective Teaching began with the idea that there are many associates on this campus who do understand the vital role of technology in education and who are in a good position to share their experiences with others—both the managers and the potential consumers of technological resources. To be clear, there is more to understand than the technology itself; we must also know how to incorporate that technology into effective teaching strategies and we must learn to appreciate fully the value in this marriage of technology and education. These insights are reflected in the articles you’ll find in this issue. In addition you’ll find a curious mixture of frustration, hope and vision, not to mention disappointment, excitement and innovation. All around us universities and colleges have already entered the age of technology; I hope this edition of Effective Teaching can contribute something to NKU’s coming of age.

I want to express my gratitude to all those who took time away from their busy spring semesters to contribute something to this special issue. To prepare the pieces in the unusually short time between the call for papers and the deadline for this issue shows a real dedication to craft and community. The staffs in University Relations and Printing Services were especially helpful in preparing this larger than usual edition; as always we very much appreciate their work. Thanks also to the Office of the Provost for recognizing the value of this project with the additional funding we required. Finally, my hat is off to the ET editorial staff, who, with short notice and little reward, perform the most amazing editorial feats at the most crucial times.

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A Primer For The Internet Novice
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As a net is made up of a series of ties, so everything in this world is connected by a series of ties. If anyone thinks that the mesh of a net is an independent, isolated thing, he is mistaken. It is called a net because it is made up of a series of interconnected meshes, and each mesh has its place and responsibility in relation to other meshes. [Buddha, quoted in Dummy’s Guide to the Internet, Internet manuscript ver. 2.0: Electronic Frontier Foundation, 1994].

Welcome to the “Information Superhighway” or “Cyberspace” or “Internet” or simply the “Net.” Hopefully, you will enjoy your ride on the world’s fastest highway. The ride will be difficult at first, but be patient. There will be times when things go wrong and you do not know what to do. Do not fret! Remember the prime directive on the Net: “Ask. People know.” You may have joined the friendliest, most forgiving, and helpful community in the world! People estimate that there are 1 to 3 million users of the Net (no one really knows the exact number!). I hope you do get onto the ramp to the information superhighway. Have fun. Whatever you do (or don’t do), “You can’t break the Net.”

What is the Internet?
The term “Internet” is actually short for “internetworking.” The Net superhighway is a high speed backbone consisting of computer network systems that can transfer data at the rate of 45Mbits; these systems in turn are connected to smaller nets serving geographic regions with data transfer rates of 1.5Mbits. A Mbits (or million bits per second) is equivalent to exchanging approximately 100,000 characters or 200 words or 40 pages of text per second between two intelligent systems.

The Internet is also defined as:
• a network of networks based on the standard TCP/IP protocols3 (Transmission Control Procedure/Internet Protocol) or TCP/IP is a standard that establishes things such as message formats, rules for communications between devices, routing etc.);
• a community of people who use and develop those networks,
• a collection of resources that can be reached from those networks.

Historically speaking, the Net originated from the ARPAnet: a 1970’s U.S. Defense Department communications network setup by the Advanced Research Projects Agency.

Who Governs the Internet?
“In many ways the Internet is like a church: it has its council of elders, every member has an opinion about how things should work, and you can either take part or not. It’s your choice. The Internet has no president, chief operating officer, or Pope. The constituent networks may have presidents and CEO’s, but that’s a different issue; there’s no single authority figure for the Internet as a whole. The ultimate authority for where the Internet is going rests with the Internet Society, or ISOC. ISOC is a voluntary membership organization whose purpose is to promote global information exchange through Internet technology.” (Dummy’s Guide to the Internet)

An annotated inventory of services offered on academic or public access Internet sites

TELNET: A program that provides access to databases, computerized library card catalogs, weather reports, and other information services, as well as live, online games that let you compete with players from around the world. Also, the program provides the ability to log into a remote computer site. NKU’s AXP provides access to this service. [Syntax: TELNET telnet-address].

Some useful Telnet addresses:
holis.harvard.edu
Harvard University Library
locvs.loc.gov
Library of Congress Information Service (search current & past legislation)
fedix.fie.com
Username: fedix (search the federal hiring database for research/scholarships)
access.usask.ca
Login username: HYTELNET. (Hytelnet at the University of Saskatchewan is an online guide of Telnet sites around the world).

FTP (File Transfer Protocol): A program that provides access to hundreds of file libraries (everything from computer software to historical documents to song lyrics). You can transfer files from the Net to your personal computer. NKU’s AXP provides direct access to this service. Most FTP sites are “anonymous,” implying that a remote user can access the files at this site by logging in with the user-name anonymous. FTP client programs are also available for your personal computer. [Syntax: FTP ftp-address].

Have fun. Whatever you do (or don’t do), “You can’t break the Net.”

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Some interesting “anonymous” FTP sites:

- ftp.ncsa.uiuc.edu
  Univ. of Illinois, National Center for Supercomputing Applications. Provides access to numerous software tools for the Internet. This group developed the hypertext-based graphics browser for the Internet called Mosaic. (Look in the PC/Windows/Mosaic and get the file wmos20a7.zip. Mac users should look in the /Mac/Mosaic directory.)

- nptn.org
  University of Texas FTP server. Part of what is popularly known as “Project Gutenberg.” Get copies of Aesop’s fables or Lewis Carroll’s works or look up most historical documents (e.g., Magna Carta or the Declaration of Independence, look in the pubs/e.texts/gutenberg directory).

- wuarchive.wustl.edu
  Cooking (look in the usenet/rec.food.cooking/recipes directory)

- ftp.cac.psu.edu OR boombox.micro.umn.edu
  Obtain free browsers, hypertext software with graphics user-interface for the Internet such as Mosaic; and obtain client software for running a gopher server on your computer or mainframe.

Gopher: A program that gives you easy access to dozens of online databases and services by making selections on a menu. You will also be able to use these to copy text files and some programs.

gopher n. 1. Any of various short tailed, burrowing mammals of the family Geomyidae, of North America. 2. (Amer. collog.) Native or inhabitant of Minnesota: the Gopher State. 3. (Amer. collog.) One who runs errands, does odd-jobs, fetches or delivers documents for office staff. 4. (computer tech.) Software following a simple protocol for tunneling through a TCP/IP Internet.

The NKU AXP is not a Gopher “client” at the present time. But potential Gopher users can access many Gopher menus indirectly using Telnet. Gopher client programs are also available for the personal computer.

Some Gopher “home page” addresses (use the command: “TELNET gopher_address” unless you have direct internet access and use a browser like Lynx):

- gopher.gsu.edu
- good.gopher.site for beginners on the Internet
- info.anu.edu.au
- gopher.uiuc.edu
- gopher.ebene.net
- Australia
- North America
- Europe

Resources for Educators

When in Lynx enter “G” and then enter the address (URL) at the “URL to open” prompt.

Effective Teaching. NKU’s newsletter for teachers.

ABC’s of Teaching from UC/Berkeley. A large collection of tips for better teaching.
gopher://info.ucb.berkeley.edu/11/p/otherdepts/tips/GD

Educational Testing Service. “This is the Educational Testing Service (ETS) Internet Gopher server, provided by the Communications and Information Processing Services (CIPS) Division. The purpose of this server is to provide complete, up-to-date information to students and institutions about our tests and services.”
gopher://gopher.ets.org/1

NIH Guide to Grants and Contracts. “The NIH-Guide is distributed weekly via E-mail to sites that require information about NIH’s activities.”
http://www.med.nyu.edu/nih-guide.html

US Department of Education. “Welcome to the U.S. Department of Education’s World Wide Web Server sponsored by the Department’s Office of Educational Research and Improvement (OERI).”
http://www.ed.gov/

Federal Information Exchange (FIE, Inc.). “FIE is the major link in the electronic transfer of information between higher education and the federal government.”
gopher://fiedx.fie.com/11/

The Goals 2000: Educate America Act. “This directory provides the full text of the GOALS 2000: Educate America Act that President Clinton signed into law on March 31, 1994.”
gopher://gopher.ed.gov/10001/11/initiatives/goals/legislation

Higher Education Resources (including HEPROC-L). “Articles and files on the Higher Education Resources menu are thematically arranged to provide an array of information on a variety of important subjects. In many cases the source for the articles is the HEPROC-L mailing list, run by Carl Reitman. Also featured are original interviews and materials from the CQI-L mailing list (see the TQM submenu).”
gopher://www.digimark.net/11/educ/hec/

Apple Higher Education Information. “In addition to the Apple ‘Generic’ information found in the topline folders, this folder is geared specifically for the higher ed community.”
gopher://info.hed.apple.com/11/Higher%20Education%20Info

IBM Kiosk for Education (IKE) and ISAAC. “The IBM Kiosk for Education (IKE) is a gopher-based server offering IBM information, application software, and a bulletin board for IBM users in the higher education community.”
gopher://isaac.engr.washington.edu/1

AskEric. “…an Internet-based question-answering service for teachers, library media specialists, administrators, and others involved in education.”
gopher://ericir.syr.edu/1

Links to these resources and others can be found at file://localhost/nku:/soc.philos.www.fyi/teaching_stuff.html

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ARCHIE: A program that indexes files from millions of anonymous FTP sites. Anybody can call on Archie to find out whether a specific file is available, and where on the Net it was available. Although this program is not a "client" at NKU's AXP node, interested users can obtain access to Archie through e-mail, Telnet, and Gopher.

WWW: World Wide Web. Developed by CERN (European Particle Physics Laboratory), this program uses hypertext technology to "link" words in one document to many other documents. You can purchase a WWW browser like Netscape or Mosaic. The latter is also available as a freeware at many FTP sites. Users can get to WWW through Lynx and/or most Gopher servers. Alternatively, try using Telnet (type "TELNET Telnet.w3.org" at the AXP prompt).

WAIS: The Wide Area Information Server permits the user to search dozens of databases in one search. The user sees only one interface; the program worries about how to access hundreds of databases. Although no direct access is available through the NKU AXP, users can get to WAIS through Lynx and/or most Gopher servers.

IRC: Internet Relay Chat is a CB simulator; it is useful for live keyboard chats with people around the world. This service is not available through the NKU AXP at this time.

TALK: Useful for talking with remote users; akin to the old "phone" command on the AXP. This is accessible through the NKU AXP system. The TALK utility allows you to carry on an interactive conversation with another user on the local host or on any remote host supporting the TALK protocol. The TALK display uses the AXP/VMS screen management routine to create a multiple window display on your terminal through which the conversation takes place. (Source: AXP online help). [Syntax: TALK remote-user-name@remote-address or TALK local-username].

VERONICA: Veronica is a service that maintains an index of titles of Gopher items and provides keyword searches of those titles. A Veronica search originates with a user's request for a search, submitted via a Gopher client. The result of a Veronica search is a set of Gopher-type data items, which is returned to the Gopher client in the form of a Gopher menu. The user can access any of the resultant data items by selecting from the returned menu. Veronica must be accessed through a Gopher client.

A Veronica search typically searches the menus of Gopher servers, perhaps nearly all the Gopher servers that exist on the Internet. The Veronica service comprises two functions:

- Harvesting menu data from Gopher servers and preparing it for use;
- Offering searches of that database to Gopher clients.

This service is not directly available, but most Gophers provide access to Veronica.

FINGER: A handy program for finding out more about people

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KTLN at Northern

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he Kentucky TeleLinking Network is a state-wide compressed interactive video project funded in part by a $4 million federal Star Schools grant. Participation in the project is a cooperative venture funded by the Stars School grant, the State of Kentucky, individual universities, and public school districts. By this summer, a network of interactive video will be at all eight state universities and will branch out from there to numerous public school districts.

The interactive video classroom will permit real-time, instantaneous transmission of video and audio between KTLN sites and from other sites around the country. The system is computer based and user friendly. You will be able to teach a class at Northern and have it transmitted to a class in Owensboro, Ashland, or just about any other location in Kentucky. The class in Owensboro sees and hears you and you see and hear them. The camera can be programmed to focus on whomever is speaking and pan the room when no one is talking. There is a built-in fax for instant sharing of printed material and the computer can be loaded with graphics, which can be sent at the appropriate time to illustrate your presentation. Each site has at least two monitors, so your presentation can be on one and your graphics on another while you view the class back at your site. The process makes state-wide distance learning a reality.

Northern will be one of eight hubs of the state-wide system. Through us, Pendleton and Carroll county and Southgate Schools will participate in the program. Our KTLN classroom will hold up to thirty students in classroom use, but we also envision that many state-wide conferences and meetings will now be held using this technology.

We are now interested in identifying faculty who may want to explore teaching classes using this new technology. We are putting together some training classes for this Spring. If you are interested, please contact Cliff McMahon, Local School Services, BEP 102. If you have any questions, feel free to call Cliff at x5632 or Tom Isherwood at x5666.

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on the Net. Any Internet user can set up information that can be obtained by others on the Net using the finger program. Users can create their own "plan" files to supplement information about themselves and/or for other interesting uses. [Syntax: FINGER user-name@address]. For example, try finger the following:

weather@cirrus.mit.edu  Latest weather by the National Weather Service.
jtchern@ocf.berkeley.edu  Current major-league baseball standings. At times, you may be provided alternative names to search for this information. For example,
jtchern@tsunami.berkeley.edu

khazanchi@nkku.edu  The author’s .plan file.

WHOIS: Useful to obtain general information regarding an organization or person. The user organizations or persons have to be registered Internet users for this to work. For example, try:

whois nkku or whois tsacsl. [Syntax: WHOIS name, where "name" is the last name or organization name you’re looking for on the Internet].

LYNX: A browser program for users on the AXP and UNIX platforms that is mainly designed to provide access to the World-Wide Web. Developed by the Distributed Computing Group at the University of Kansas, this program offers a hypertext, character-based user-interface (as compared to a graphics, icon-driven interface such as the IBM Windows or Mac) for accessing the various Internet services with special emphasis on the World-Wide Web. Lynx predominantly makes use of file server addresses called URLs or Universal Resource Locators. Gophers and FTP servers could be accessed through Lynx by using appropriate URLS. LYNX is available through the NKU AXP system. Type the word “LYNX” at the AXP $ prompt and follow the instructions.

SLIP/PPP: Serial Line Internet Protocol/Point to Point Protocol are standards established for achieving direct Internet connections where your personal computer, in effect, becomes a "host" on the Net. Basically, this allows users with network cards or modems to "slip" onto the Net as actual nodes on the Net without going through an intermediary such as the NKU AXP system. Private and public communication service providers furnish this facility on a payment basis; organizations and universities may purchase and give end users Internet (IP) addresses for direct access to the Net. Please contact the author for more information regarding this capability and the software needed to create such direct connections.

PINE: A user-friendly, menu-driven version of the AXP mail system. Just type the word "Pine" at the AXP $ prompt and follow the instructions.

Notes

1. The Internet version of the manuscript, Dummy’s Guide to the Internet (Electronic Frontier Foundation, 1994), various FAQ (Frequently Asked Questions), and FTP (File Transfer Protocol) resources on the Internet were used extensively to understand the Internet and write this primer.

2. A protocol is a set of rules or conventions that govern communications between intelligent systems. Simply put, protocols ensure that two communicating devices “speak the same language” and that the receiving device is not “overwhelmed” with data. Protocols are used to establish rules for delineation of data (message formatting), error detection, control sequences, etc. TCP/IP is such a message interchange protocol that itself is a super-set of protocols for performing tasks such as file transfer, electronic mail, logging in to remote nodes, live chatting, etc.
How to Cite Electronic Media
(Modeled after the 1994 APA guidelines)

FTP or Telnet:

Articles available via e-mail:
Root, C. (1994). ESL and learning disabilities: A guide for the ESL practitioner. TESL-EJ. Available e-mail: LISTSERV@CMSA.BERKELEY.EDU
Message: GET TESLEJ01 A-4 TESLEJ-L F=Mail

To cite e-mail messages:
General format:
Author (Year, month day). Subject of message [e-mail to receiver's name]. [Online]. Available e-mail: receiver's e-mail address.

Example:
Corio, R. (1994, June 1). APA Guide deadline [e-mail to msokolik@uclink.berkeley.edu]. [Online]. Available e-mail: msokolik@uclink.berkeley.edu.

Computer Programs:

Online databases:

APA Guidelines. TESLEJ-L. Available e-mail: LISTSERV@CMSA.BERKELEY.EDU Message: GET TESLEJ-L APAGUIDE TESLEJ-L F=MAIL

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Holtberg, Borge Ed. and E. Gerhard Ed. (1990) "Research Into Distance Education." Paper, International Symposium on Distance Education in Theory and Practice (September), 221.
Manning, Rick (1992) "Online Education Gives New Meaning to Homework." Louisville Courier Journal (Saturday, April 11), 1.
Robichaux, Mark (1992) "Giving College Degrees For Watching TV." Wall Street Journal (June 1), B1.
Spigler, Jamie. (1991) "Going the Distance with Distance Learning." ASSiH/Friend. 33-36.