"IF I WRITE, I UNDERSTAND..."
ELECTRONIC MAIL: A 1990's LEARNING TOOL
FOR SOCIAL WORK EDUCATION

Stephen M. Marson, PhD, Pembroke State University
Dennis Cogswell, EdD, Radford University
Robert Vernon, PhD, University of Indianapolis

INTRODUCTION: THE TRADITIONAL ORAL APPROACH TO TEACHING-LEARNING

The learning process in social work education has historically been oral. The norms of most classrooms prescribe that professors lecture and lead discussions or exercises involving oral processing. Students are expected to listen to lectures, participate in exercises, and discuss questions and issues orally. The readings that are assigned are orally reviewed. Discussions are invariably oral in nature. Writing is typically used to evaluate learning. It most often is employed for tests and the frequent term paper. The work of Emig (1983) and Olson (1991) provides powerful arguments for increasing writing assignments for social work majors.

For years social work educators have employed writing as a way of enhancing the teaching-learning transaction. For example, logs or reaction journals have been assigned to help students process life experiences, assignments, or classroom and field instruction exercises. In class, students are asked to react to readings and lecture through writing that are shared with their fellow students instead of through discussion. Faculty assist in the writing of drafts of a term paper rather than merely grade an end product. These approaches to writing and learning are valuable tools for use in social work education. Electronic mail is a powerful extension of this tradition. Unfortunately, e-mail users have a language of their own. To alleviate the transition to this new medium, a glossary of e-mail terms is included in the appendix.

ELECTRONIC MAIL

Electronic mail (e-mail) is found within one of six common types of computer domains on most university campuses. In brief, the domains include 1) communications within which e-mail is a part, 2) administrative applications, 3) library-based information search, 4) research support such as shared statistical and data analysis applications, 5) computerized instruction, and 6) the communications-facilitated instruction domain. This final domain is a synthesis because it comprises elements from both communications and computerized instruction.

E-mail is an electronic system for sending messages between two or more individuals whose computers can communicate with each other. Electronic mail is a substitute for the telephone call, the
paper memo, or the handwritten note. The computers involved in this interchange are often linked into a Local Area Network [LAN] within a department or school, and entire campuses are sometimes linked so that all computers with the necessary hardware and software can exchange messages. For example, a social work professor can confer with a colleague in the chemistry department on a committee issue, send one message to the entire committee, or circulate information well beyond the committee. Electronic mail can be quickly read, responded to, copied, forwarded, saved, or deleted.

Electronic mail can also be extended far beyond the campus. State universities are often linked together via electronic communications networks. These larger systems are frequently linked even further. One can send a message to a colleague in Israel or Tokyo with relative ease and extremely low cost. In most cases, the cost is less than sending a letter with a first class postage stamp. Two scholarly networks, Internet and Bitnet, are truly global: "Bitnet" is an acronym for "Before It's Time NETwork" and its intended purpose exists for the pursuit of academic instruction and research. For most institutions, Bitnet is less expensive than Internet. Bitnet e-mail addresses are shorter and therefore quicker and easier to type. On the other hand, Internet is much larger and is able to access more [i.e., more library card catalogs via HYTELNET].

Through e-mail, scholars at small institutions with small budgets are given an opportunity to participate in ways that have not been possible in the past. A college professor in Michigan validated e-mail worth to him when he said: "I'm a community-college teacher in Michigan, but I have a world-wide colleagueship. I engage in collaboration and criticisms with scholars from around the world" (Wilson, 1992, p.17-18).

The term "network" has a long history of use in social work education. In traditional social work practice, networking includes ties with other professionals and organizations. E-mail and computer technology provide a world-wide network of social workers. Linkages can be made with highly specialized social work educators and practitioners. One example is the Social Work Discussion Group (SOCWORK@UMAB) sponsored by the University of Maryland. By simply sending a memo, message, or inquiry to a single e-mail address, a social worker may have several hundred social work educators, students, and practitioners from around the world receive the message and then respond as appropriate. For example, immediately following Hurricane Andrew, this listserver was used to aid the effected areas. At another time, a social work program director sought information from his listserver members on how faculty at other universities viewed colleagues whose terminal degree was the Juris Doctorate. This helped him decide how to vote on a tenure and promotion issue. Strangelove (1992) provides an excellent directory of networks for both beginners and experienced e-mail users. To obtain a copy of this useful resource, send e-mail to one
of these address:

LISTSERV@UOTTAWA.BITNET (OR) LISTSERV@ACADVM1.UOTTAWA.CA

The e-mail message must read:

Get SOCWORK Directry

No other words, punctuation, or symbols should appear in the electronic mail message.

Another form of e-mail within the communications domain is the electronic bulletin board (bbs), a public informational/discussion exchange. It is the sending of information, opinions or messages to a public, either general or specific. A message, or bulletin, is placed in a central place and received and/or reacted to, by a variety of persons. Respondents read a beginning message, place their response, read others responses, react to reaction or only read what others have stated. The processing and analysis of information and opinions is done individually. The process does not generally involve a teacher/facilitator other than someone connected to the computer system who oversees the bbs to see that the "rules" of the bbs are followed. It is important to remember that most systems support communications between individuals without much difficulty, and conference-managing software can easily support group-level communications. Truly "meetingless meetings" are quite possible on most university communications systems.

Electronic bulletin boards are a key way to incorporate writing as vehicle for learning. Classroom activities can be electronically extended through one-to-one, conferencing, and bulletin board communications. Rather than simply speaking, students are compelled to write far beyond traditional classroom expectations. In addition, communications-facilitated instruction, unlike the more traditional types of computerized instruction above, is built on the ability of linking professor and students together through e-mail for learning. Message sending evolved into discussion groups where a wide variety of teaching methodologies via electronic means are used.

BASIC E-MAIL AS A TEACHING-LEARNING TOOL

In the most basic E-mail format, information is exchanged between two individuals. Ideas are developed and processed. This format is basically the sending of a private message to one or more other persons, each receiving the message as an individual. Once educators became proficient in sending messages, innovative educators began to utilize the basic form for actual teaching-learning purposes. For example, some specific ways that basic e-mail has been used as a teaching-learning process between two individuals includes communication exercises such as in-basket...
exercises where students complete assignments and turn them in to an instructor electronically, and interviews between a student and another party that are carried out electronically and copied to the instructor.

Faculty can serve as mentors to their students through the "talk" or "chat" method of e-mail where two individuals actually communicate in real time with each other over the computer. A faculty member thus can be hooked directly to a student located elsewhere. When the "talk" or "chat" function of e-mail is utilized, what is typed on the top of the instructors screen is displayed on the bottom of the student's screen and visa-a-versa.

COMPUTER CONFERENCING/ELECTRONIC CONFERENCING

Computer conferencing or electronic conferencing is just like an oral classroom discussion. A transcript of an on-line discussion reads just like a transcription of an audio recording orally held among students and teachers meeting simultaneously in the same physical classroom. The difference between the two is mainly the length of time over which the discussion occurs. An in-person, oral discussion generally takes place over a one to twenty minute time period. An e-mail, written discussion, can take place over several hours or days as participants react at different time periods, depending upon their scheduled time on the computer. E-mail has the advantage of offering quality time to reflect on the issues being addressed.

There are many different ways to hold a discussion via electronic conferencing. One way is to have students react at first to a discussion question and then to each other. This may be characterized to a series of related letters to the editor of a newspaper. Easley (1992) has written about the many different discussion formats for computer conferencing. They include having students (1) critique a commonly read article; (2) jointly write/edit a group report; (3) read a summary about a client, then submit a list of questions that could be used to guide an interview; (4) send an opinion about a issue directly to the instructor who in turn will relay the summary results; (5) send a defense of a specific position on a topic; read the defenses (anonymously) and then be asked to comment on them; (6) assigned sides on an issue and then asked to debate that issue; (7) asked to write in a "free association manner" on a subject; (8) would have one class member placed "on the hot seat" and asked to defend a position that is attacked by other students; (9) asked a question to be answered by another student who will in turn ask another question to be answered by another participant, and so on (the electronic socratic dialogue); (10) are given ten or so related questions by the instructor who then invites replies; (11) are asked to respond in a set order to a discussion topic; (12) use a guided discovery approach where they write about a particular topic, ask questions and make statements. Every time a student

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offers something that is supported by specific research, the
instructor adds a note telling about that research; and (13)
respond to the partially true statements made by the instructor in
terms of seeking inconsistencies in the points being made.

SOME ADVANTAGES OF THE E-MAIL MEDIUM FOR LEARNING

Use of the various e-mail methods produces some interesting
influences on a group of students and changes some of the typical
group dynamics present in traditional learning situations. For
every example, the distance between class members when e-mail is employed
as a teaching-learning transaction and the one-dimensional context
of e-mail, can reduce communication barriers by controlling or
eliminating group dynamic factors and making race, gender and
physical disabilities non-existence. Rasmussen et. al. (1992)
suggest: "... all attention is directed to the contextual message.
In an electronic conference, one cannot be interrupted by verbal
authorities, and responses can be prepared and changed. Thus, once
the technical and perhaps financial obstacles are mastered, it
provides a relatively democratic environment for group discussion.
It can be open to unanticipated and unplanned interactions and
surprising viewpoints and alliances (p. 5)." Race, ethnicity,
gender, physical handicap, sexual orientation, and religious
affiliation are all non-entities in electronic communication. In
the old West, the six shooter was called the "great equalizer." In
post-industrial societies, the great equalizer is e-mail!

CONCLUDING THOUGHTS

Social work faculty can use electronic writing in many ways to
assist the teaching-learning transaction. The learning-log/reaction
diary is a very popular assignment in many social work
classes; this can easily be utilized via e-mail. Faculty can
involve themselves in helping students improve their writing by
making assignments and discussions take place through e-mail.
Electronically circulated rough drafts of papers can be shared on
e-mail, involving the professor in on the writing process in a
direct and active way. When students are being asked to write
personal reactions to questions about a reading assignment, make
the dialogue electronic. Verbal discussion certainly has its place
in the classroom, but e-mail can dramatically extend it well beyond
the time when the class ends. Electronic mail provides new ways in
which writing can be used to assist learning. It is an exciting
and powerful instructional method. In addition, it can broaden
both faculty and student's worlds well beyond the local campus.

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APPENDIX: THE GLOSSARY

Introduction

This glossary was written for e-mail beginners. It includes words, phases, and acronyms most frequently used by e-mail users. Throughout the glossary items can be found in italics. The italics indicates that the item is also a defined term.

Access Time -- The time that elapses between the time the operating system issues an order for data retrieval and the data is ready for transfer from the disk.

Address -- The physical location of the e-mail user. An example of a BITNET address is MARSON@PEMBVAX1.BITNET. The first part of the address [before the @] is the user's identification [usually spelled USERID]. The second part [after @] is the node which is the name for the network-connected computer. After the "." is the name of the network -- in this case BITNET. Internet addresses have a slightly different appearance; for example, MARSON@PEMBVAX1.PEMBROKE.EDU. Another form of the same Internet address is: MARSON@[128.109.791]. CompuServe has a different address configuration; as well as Prodigy and Genie.

Anonymous FTP [File Transfer Protocol] -- The process of connecting to a computer via a modem. The connection is made anonymously or with a guest/newuser identification for the purpose of downloading files.

ASCII -- An acronym for "American Standard Code for Information Interchange." ASCII is a standard code for presenting information. For example, if one wanted to upload a file for E-mail transmission, one should use the ASCII format. The embedded commands in the typical word processing package are not readable by the receiver. There is software available for transferring a regular word processed file into an ASCII file. A shareware package called "stripper" does a good job.

Baud rate -- The speed a modem can transmit information. The higher the number the faster the speed.

Bit - A single on/off value. Information is formed by the interpretation of many of these bits.

BITNET -- An acronym for "Before It's Time NET." A Wide Area Network used for universities. The intended purpose is for the pursuit of academic instruction and research.

Bounce -- An E-mail expression. When an individual wishes to send information to an E-mail address not usually contacted, one might send a message of inquiry to determine if the E-mail will bounce back. If an E-mail address is not correct, the message will return
to the sender or will "bounce" back. The characteristic of "bouncing" e-mail becomes extremely important when dealing with confidential information.

CAI -- An acronym for "Computer Assisted Instruction." Presently, some universities offer college courses via a WAN [Wide Area Network]. It is likely that in the future many professors will be involved in such teaching techniques.

Client-Server Interface -- A function within a software application that provides an interface with another program on a different computer [via a modem]. The second program is called a "client."

Compuserve -- The largest commercially sponsored E-mail and network system. It offers a gateway to BITNET and INTERNET.

CREN -- An acronym for "Computer Research and Education Network." This is the organization that is responsible for BITNET and the Computer Science Network.

CWIS -- An acronym for "Campus Wide Information System." Serves as an electronic bulletin board for campuses. The information usually includes class schedules, campus events, campus phone directory, etc. With each passing day, the list of functions grows larger. At the time of this writing, 34 campuses in the USA and 15 campuses in the United Kingdom offer this service to anyone via a modem.

DNS -- An acronym for "Domain Name System." DNS is the procedure for establishing an Internet address. Moving from left to right, the address progresses from most specific to most general. The sequence is separated by periods. The following is an example of an Internet address: MARSON@PEMBVAX1.PEMBROKE.EDU

Download -- A process by which one transfers a file from one computer to one's own. To upload would mean the opposite.

Electronic Bulletin Board -- A file that can be shared by many users via a modem. An electronic bulletin board usually houses information that users can upload and download. Some electronic bulletin boards includes e-mail-like functions.

E-mail -- An acronym for "electronic mail." A method of communication via computers that is more efficient, faster, and less expensive than U.S. mail. E-mail is much less expensive than long distance telephone service and is general quicker [no problems of "phone tag."]

FTP -- An acronym for "File Transfer Protocol." It includes the procedures to upload and download files via a modem.

Gateway -- A concept used to describe linkage from one network to
another. For example, Compuserve has a gateway to BITNET. As of April 93, GEnie has a gateway to BITNET and INTERNET. This means that if you were a GEnie or Compuserve subscriber, you would have access to BITNET. If you were a Prodigy subscriber you would not.

GEnie -- An inexpensive commercially sponsored E-mail and network system. It is owned and operated by the General Electric Corporation. As of April 93, it offers a gateway to BITNET and INTERNET.

Host computer -- Often confused with a network server. The host is the computer through which a user is directly served.

HYTELNET -- Software used to assist users in reaching all of the Internet-accessible libraries, Freenets, CWIS's, Library BBS's, and other information sites TELNET.

Interactive processing -- A type of communication in which at least two individuals can simultaneously "interact" or communicate with each other over a network. Most LAN and WAN systems have this capacity. The process is similar to talking to an individual over the telephone, except the communication is written on the monitor.

Interface -- A linkage between at least two systems. For example, an interface exists during interactive processing.

INTERNET -- Has two different meanings. 1) Usually, but not always, when the term is spelled with a lower case "i," internet refers to a group of hard and software components that are configured in a manner that links them to become a LAN or WAN. 2) When the term is spelled with an upper case "I," Internet refers to a specific WAN. Because of its many gateways, Internet is a highly used network in academic settings.

IP -- An acronym for "Internet Protocol." The procedures of transferring electronic information through different networks. The information must travel through a variety of different gateways which require a uniquely different configuration for each network.

LAN -- An acronym for "Local Area Network." A system by which computers are tied together in a relatively small geographic area for data communication and transfer purposes.

Login or Logon -- To link or connect to a computer. These terms are usually reserved for mini's and mainframe computers.

Logout -- To disconnect from a computer. These terms are usually reserved for mini's and mainframe computers.

Listservers -- Also called "Listserv" or "Lists." Electronic discussions groups conducted via e-mail over BITNET. The
discussion group for social workers is located at the University of Maryland with the address of SOCWORK@UMAB.BITNET.

Menu driven -- An interface between the user and computer program(s). Options are provided on the screen. The user selects with the keyboard or a mouse. Menu driven software is usually considered user friendly.

MIS -- An acronym for "Management Information System." MIS is a generic term used to describe an information system that serves the needs of managers. The systems typically have a coordinating function.

Modem -- An acronym for "MOnodulaor-DEmodulator." Computer hardware for transmitting information from one computer to another usually with the aid of telephone and/or satellite technology.

Mouse -- A computer hardware device for moving the cursor on the monitor. A mouse tends to be quicker than using the computer keyboard.

Network -- Computer software and hardware that link computers together for the purposes of data transfer and communication.

Network server -- At times is confused with a host computer. The network server provides services to the user via an intermediary host computer.

NIC -- An acronym for "Network Information Center." It provides administrative support, user support, and informational services for a network.

Node -- Part of the address for E-mail. The node is the name of the physical location. The E-mail address for the Social Work Discussion Group is: SOCWORK@UMAB.BITNET. UMA B is the "node name" for the University of Maryland. SOCWORK is the "user name." BITNET is the name of the network where the SOCWORK@UMAB can be found.

NREN -- An acronym for "National Research and Education Network." Senate Bill 1067 has proposed NREN which is to become a national network. Some say that it will be expensive and will cost universities an abundance of money to participate. The prime advantage over the present network[s] will be speed and the availability of sending huge volumes of information.

OPAC -- An acronym for "Online Public Access Catalog." A term used to describe any type of computerized library catalog.

Parallel port -- see port.
Port -- A socket-like receptacle usually found on the rear of computer chassis in which a variety of computer hardware is linked to the mother board. There are two types of ports: serial and parallel. Serial ports permit information to transmit through a single wire one bit at a time. Parallel ports use multiple wires to transmit information across many wires.

Prodigy -- A network established for Apple products. At this point in time, prodigy does not offer a gateway to BITNET or Internet.

Protocol -- Refers to the specifications required for computer communications. When one wants to link their home computer to the university's communications hard and software, one must first learn the university's protocol. The protocol includes items such as baud rate.

Public domain software -- Software available at no cost.

Remote access -- The ability to link to a computer, system, network via a modem.

Scanning -- The process of placing an image [picture, chart, graph] on a scanning machine in order to have the image reproduced into bytes. The bytes are transformed into the original image on the CRT and can be reproduced for a hard copy or it can be transmitted via e-mail.

Serial ports -- see port.

Shareware -- Software that is given free of cost for examination and trial use. Ethically, a consumer is bound to pay for the software if there is an intention to use it.

S-mail -- The "S" stands for "snail" or "surface." Computer jockeys use this term for the United States Postal Service.

SOCWORK@UMAB.BITNET -- The BITNET address for the Social Work Discussion Group.

SR -- An acronym for "Search and Retrieval."

Telecommunications -- The transmission of information through the use telephone lines and satellites.

TCP/IP -- An acronym for "Transmission Control Protocol/Internet Protocol." A set of two protocols that transfers information between two computers. TCP monitors and ensures the correct transfer while IP receives the information from TCP and breaks it up into packets and transfers it to a network within Internet.

TELNET -- Part of TCP/IP that handles terminals. It permits a user to logon from a remote access with the user's local computer.
Terminal -- Includes a typewriter-like keyboard and a CRT. This device enables the user to input and extract computer data.

Terminal Emulation -- A process by which a personal computer's or workstation's terminal can mimic the required terminal from remote access. This task is accomplished via a communications software package that is consider standard equipment for most networks.

Terminal Server -- A machine that connects terminals to a network by providing host TELNET service.

Transfer rate -- The number of bits of information transferred per second between a disk and the computer after the drive head reaches the place where the information in located.

Upload -- A process by which one transfers a file from one's own computer to another computer. To Download would mean the opposite.

User friendly -- Refers to the ease at which computer software or hardware can be used by a novice. Although "user friendly" programs tend to be easier to use, they typically are slower. However, recent advances in costing cost of computer memory have made user friendly software more efficient.

WAN -- An acronym for "Wide Area Network." A system by which computers are tied together in a relatively large geographic area for communication and transfer purposes.

WYSIWYG -- An acronym which stands for "What You See Is What You Get." The term is used commercially to indicate that a word processing program offers the convenience of seeing the printed page on the screen.