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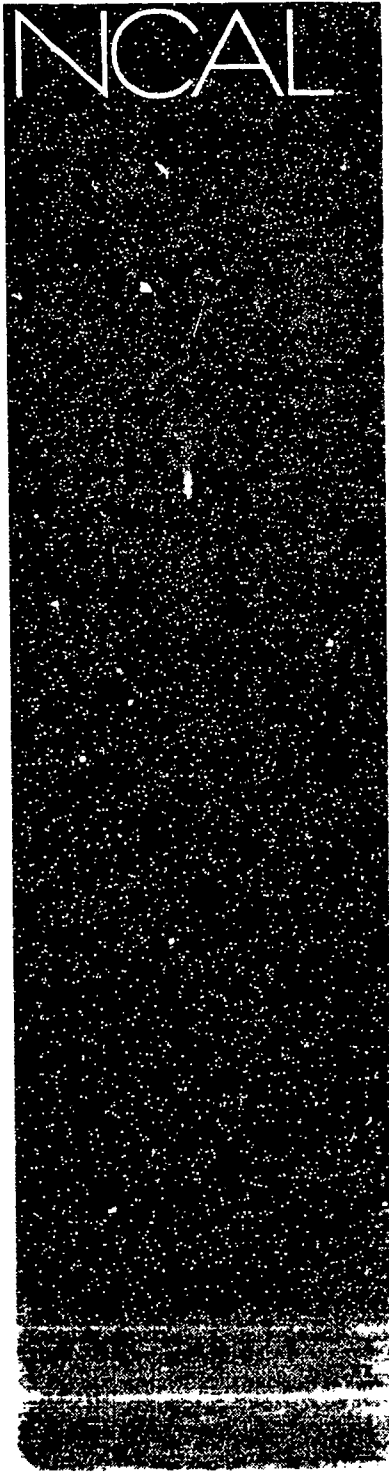
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ABSTRACT

This technology glossary was developed to aid new users of technology as well as those beginning to become familiar with computers. It contains 230 definitions written in concise lay terms intended to help words become meaningful and alive for the user. The glossary defines terms as appropriate to IBM-type and Macintosh computer programs. A bibliography lists 11 references on which the glossary is based. The final section is an annotated bibliography of adult literacy and technology resources that describes 34 books, pamphlets, guides, lists, and journal articles that provide information on technology for adult literacy. (KC)

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TECHNOLOGY TERMINOLOGY
FOR ADULT LITERACY**
A GLOSSARY AND ANNOTATED BIBLIOGRAPHY

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Joseph Campbell
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National Center on Adult Literacy
University of Pennsylvania

**NCAL PRACTICE GUIDE PG95-01
NOVEMBER 1995**

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Practice
Guide

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The National Center on Adult Literacy (NCAL) was established in 1990 by the U.S. Department of Education, with co-funding from the Departments of Labor and Health and Human Services. The mission of NCAL addresses three primary challenges: (a) to enhance the knowledge base about adult literacy; (b) to improve the quality of research and development in the field; and (c) to ensure a strong, two-way relationship between research and practice. Through applied research and development and dissemination of the results to researchers, policymakers, and practitioners, NCAL seeks to improve the quality of adult literacy programs and services on a nationwide basis. NCAL serves as a major operating unit of the Literacy Research Center at the University of Pennsylvania.

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TABLE OF CONTENTS

<i>Table of Contents</i>	<i>i</i>
<i>Abstract</i>	<i>iii</i>
Introduction	1
Glossary	1
Bibliography for Glossary	27
Annotated Bibliography of Adult Literacy and Technology Resources	28

MAKING SENSE OF TECHNOLOGY TERMINOLOGY FOR ADULT LITERACY

A GLOSSARY AND ANNOTATED BIBLIOGRAPHY

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ABSTRACT

This technology glossary is intended to aid new users of technology as well as those beginning to become familiar with computers. Definitions are written in clear, concise laymen's terms so that the words will become meaningful and alive for the user. This glossary was developed to benefit adult literacy administrators and instructors as well as their students. However, it will also be useful for many others who are exploring the use of technology for educational purposes. The glossary defines terms as appropriate to IBM and Macintosh™ computer programs. For practitioners and researchers involved in the the literacy field, the annotated bibliography details resources to refer to as they look to incorporate technology in their individual programs.

INTRODUCTION

Entering the world of computers and technology can be an overwhelming task. All computers and software packages are accompanied by manuals and instructions, written in technical jargon that often prevents a computer user from feeling comfortable with technology. All too often, frustration sets in and the computer is not used to its full capacity. Figuring out how to run a program or accomplish a task with a computer can be particularly difficult if the instructions are written using a highly technical vocabulary. In fact, the language of technology must be learned for new and potential users to begin to evaluate the use and purchase of technology.

This technology glossary is intended to aid new users of technology as well as those beginning to become familiar with computers. Definitions are written in clear, concise layman's terms so that the words will become meaningful and alive for the user. This glossary was developed for adult literacy administrators and instructors to use themselves and also with their students. However, it will also be useful for many others who are exploring the use of technology for educational purposes.

Finally, for practitioners and researchers involved in the literacy field, the annotated bibliography details resources to refer to as they look to incorporate technology into their individual programs.

GLOSSARY

A

Access Number—A local telephone number used to connect to an on-line service.

Access Privileges—Network users' ability to see or make changes to shared items.

Active Program—The program the user is currently using. Many programs can be open at the same time, but the one in use is considered the active program. (Macintosh™ and Windows only)

Address—A name, group of numbers or bits used to identify a specific device (e.g., server, printer, or computer) on a network.

Alias—A small file that represents another file, document, or folder. Aliases, which can be placed anywhere, serve as pointers to original files, thereby

reducing the need to make multiple copies of a single file. (Macintosh™ specific)

Analog—Refers to information comprised of infinitely varying degrees of measurement. Compare to digital information, which is represented by either a 1 or a 0.

Anonymous FTP Sites—FTP sites that don't require a user ID. (see also **FTP**)

AppleTalk—AppleTalk refers to Apple's rules for computers to communicate over networks. (see also **LocalTalk**)

Application Folder/Directory—A folder (Macintosh™) or directory (DOS/Windows) on the computer's hard disk that contains the application programs.

Application Menu—A menu that displays all of the programs in use on the computer. (Macintosh™ specific)

Application Program—The program a user activates to work on the computer (i.e., word processing, database, etc.).

Application—An application is the actual program a user activates to work on the computer. There are many computer programs that fit into the category of application; applications are generally referred to as software. Planning is an ongoing process that translates program and technology needs into concrete actions. It allows adult literacy organizations to take advantage of technology innovations while minimizing the negative impact of unexpected challenges. Planning provides a road map for the implementation of technology and can result in more efficient expenditure of limited resources.

Archie—The system that allows a user to locate files (i.e., software, graphics, sounds, moving pictures, formatted documents, and unformatted documents) that are publicly available by anonymous FTP on the Internet. (see also **FTP**)

ASCII (American Standard for Computer Information Interchange)—ASCII is a universal code that assigns numeric code to a specific set of keyboard characters, thereby enabling different computers to read files written in this basic language.

B

Back Up—A precautionary measure whereby the user copies files or disks to other disks, hard disks, or magnetic tapes that are then set aside (sometimes in a fire-proof vault), thus protecting stored information in the event the originals are lost, damaged, or destroyed.

Baud Rate—A measure of a modem's speed in terms of the amount of information that modem can transfer from one computer to another in one second. Higher baud rates are better. (see also **Modem**)

BBS (bulletin board system)—A BBS is a computer that stores information and allows users to post and retrieve files to it by way of a modem.

Binary Code—The base 2 numbering system comprised of the numbers 0 and 1. All computers are based upon this numeric system.

Bit—A bit is the most basic unit of information on a computer. In accordance with binary code, each bit is designated as either a 1 or a 0. All other information stored on or used by the computer is comprised of combinations of bits.

Boot—Another term for turning on a computer and the process of automatically loading a set of software that the computer requires to do all of its basic operations. Derived from the idea that a computer must prepare itself for use when first turned on by “pulling itself up by its bootstraps.” Starting a computer is sometimes called “booting up”; restarting a computer is sometimes referred to as “re-booting.”

Boolean Searches—Searches that allow users to link terms together using logical statements such as AND, OR, and NOT. For instance, if you wish to find only books written by Tom Clancy about submarines, in a typical library card catalog you would enter “Clancy and submarines.” This search term would only find records that contain both the words “Clancy” and “submarines.” If a record contained only one or the other, it would not be found. If “Clancy” and “submarine” were linked with OR, the search would find records that contain either “Clancy” or “submarine” or both. If “Clancy” and “submarine” were linked with NOT, the search would find records that contain “Clancy” but do not also contain “submarine.”

BPS (bits per second)—BPS is a measure of a modem’s speed in terms of the number of bits that modem can transfer from one computer to another in one second. Higher bit rates are better. Synonymous with **Baud Rate**.

Bridge—A device in a large network that connects two parts of that network. Bridges amplify the electrical signal used to transmit information over a network, but they do not help route the information to its proper destination or switch a signal from one wire to another. (see also **Router** and **Hub**)

Button—An icon in a program that resembles a mechanical or electrical button on a machine or tool; buttons can be clicked on to designate, confirm, or cancel an action.

Byte—A combination of 8 bits. One byte represents a single letter, symbol, or number between 0 and 9. Hard disk capacity, floppy disk capacity, and RAM memory are measured in thousands of bytes (kilobytes), millions of bytes (megabytes), or billions of bytes (gigabytes).



Cable Modem—A cable modem uses two cable TV channels to establish a two-way flow of computer information over the coaxial cables used to bring cable TV into the home.

Capacity—The amount of information that a user can store on a disk or in a PC's memory.

CD-ROM (compact disc - read only memory)—CD-ROM technology is identical to the technology used to make music compact discs. The only difference is that CD-ROM discs are also used to store large amounts of computer information in addition to (or instead of) digitized audio. CD-ROM discs typically hold approximately 660 megabytes (MB) of computer software—a very large storage capacity compared with the 2MB of storage available on an average microcomputer diskette. CD-ROMs are often used to store and deliver programs that include graphics, digitized photographs, digitized video (stills or full motion), and digitized audio, because digital video and audio require extremely large amounts of storage space, far more than any floppy disk and most hard drives contain.

CGA (color graphics adapter)—CGA was the first standard developed for outputting color text and graphics from IBM and IBM-compatible computers. CGA video adapters are capable of displaying 2 or 4 colors from a selection of 16 colors at low resolution on monitors compatible with CGA. CGA was superseded by (in this order) EGA, VGA, and SVGA video adapter cards.

Character—A symbol that is used to convey information; keyboard characters.

Chat—Communication between members of an on-line service using text. The messages are sent between the members in real time, as in a conversation, by typing in short statements.

Click—The process of using a mouse to position the pointer on an object on the screen, then pressing a mouse button to open, select, or access an object. Positioning the pointer and pressing a mouse button once is single clicking. Positioning the pointer and pressing the mouse button twice in rapid succession is double clicking.

Client—A software application that allows the user to extract some service from a network server.

Closed Captioned Television—Closed captioning is a system in which the learner can read on screen what individuals in a television program or video are saying. Dialogue and sound effects are rendered into a text representation concurrent with the action on screen. Closed captioning was originally developed for the hearing-impaired; however, it has been shown to be an effective teaching tool with adult basic education and ESL students. Many television programs in the United States are closed captioned. These captions can be seen only on televisions having a decoder chip. Since July 1993, all televisions sold in the United States include a decoder chip; older televisions maybe be outfitted with an external decoder box. Some videotapes include closed captions that are useful as well.

Coaxial Cable—A type of network cable similar to the cable used to transmit cable television signals. Coaxial cable is rated in ohms; 50 ohm coaxial cable is often used for ethernet-based networks.

- Command**—An instruction the user tells the computer to do in order to complete a certain task or operation. Examples are Print, Open/Close, and Save. In DOS, commands are typed in at the prompt (i.e., C:\>); in Windows and on Macintosh™ computers, commands are usually given by selecting an option from a menu (e.g., the “Save” command found in the “File” menu of most applications).
- Command Key**—A keyboard character that tells the computer to perform a specific function when used either alone or in combination with other keys. Examples include Shift, Command, Alt, Escape, and Control (DOS/Windows) and Control, Option, Command (i.e., the key with the ⌘ or ⌘ symbol on it), and Escape (Macintosh™).
- Command-Line Interfaces** (or command-driven interfaces)—An interface that relies upon the user to enter alphanumeric commands from the keyboard in order to carry out particular operations (such as printing or making new directories). DOS and UNIX are two examples of command-driven interfaces.
- Commercial On-Line Service**—For-profit enterprises that provide individual users with access to Internet electronic mail as well as bulletin board systems and various Internet tools such as e-mail, Gopher, USENET news, and FTP.
- Compatible**—Usually in reference to the operating system with which a piece of software or computer may work. For instance, “IBM-compatible” refers to computers that use the DOS operating system. “Windows compatible” usually indicates that a software package will work with the Windows operating system. Generically, compatible means that a piece of hardware or software will work with some other piece of hardware or software.
- Configuration**—(1) Refers to the components of the computer that make up the system (type of microprocessor, monitor, hard drive, modem, etc.); (2) the process of installing and setting physical switches on a piece of hardware to assure that all components of the hardware will work together properly; (3) the process of setting options on a piece of software to assure that it will work in harmony with the computer and with other pieces of software.
- Control Panels**—The program that allows the user to adjust different features of the computer, (i.e., sound, color, screen savers). (Macintosh™ and Windows)
- Conventional Memory**—The most basic type of memory in a PC used to run programs designed for use with DOS. Conventional memory is limited to 640K. (DOS and Windows)
- Copy Protect**—(1) Programming in a piece of software that prevents a user from installing more than one copy of an application or from making an electronic copy of all or part of an application; (2) a hardware or software “switch” that prevents the user from deleting or modifying an existing file from a hard disk or floppy disk.

Copy—A command that allows the user to copy sections of a document and place them in a special part of the computer's memory for later use, usually "pasting" to another document or a different place in the same document.

Concentrator—Another term for a networking hub. (see **Hub**)

CPU (central processing unit)—Another name given to a computer. CPU usually denotes the box that contains the microprocessor, power supply, hard drive, and disk drives.

Cursor—An arrow or another symbol represented on the screen; it moves as one uses the arrow keys, inputs text from the keyboard, or moves the mouse. A cursor marks your position on a screen and thus shows where any new text the user types will appear.

Cut and Paste—A set of commands that allow sections of a document to be moved from one place to another within a document or from one document to another.

Cut—A command that allows the user to remove sections of a document and place them in the computer's memory for later use, usually "pasting" to another document or a different place in the same document.

CWIS (Campus Wide Information System)—Network information systems established by colleges and universities to provide students with basic information about classes, campus resource and events, sporting events, and so forth.

Cyberspace—The collective of computers located on multiple networks that communicate with other computers across the Internet.

D

Data Pathway—The use of network media that permits computers connected to the same hub to exchange information.

Database—A filing system that organizes information that has been collected. Information can be organized in many different ways, such as alphabetically, by city, or by company. Some examples are flat file databases and relational databases.

Default—A setting that the computer system uses automatically, unless it is otherwise changed by the user.

Desktop—The background area on a computer screen upon which are found an icon for the hard drive and one for the trash can (used to delete files); folders, files, and applications may also be stored on the desktop. (Macintosh™ specific)

Destination—The place where a copied or downloaded file or disk is placed.

Dial-Up—To open a connection between a user's computer and another computer via a modem.

Dialogue Box—A box that appears on the computer screen, asking the user for information or telling the user the available options of a particular program.

Digital—Any information that is represented by combinations of 1s and 0s. (see also **Analog**)

Digitized Audio—Digitized audio is used for a variety of purposes in instructional software. Digitized audio is developed by recording natural sounds (i.e., spoken words, acoustic instruments, etc.) and converting the audio from an analog (i.e., cassette tape) format to a digital format that computers can read and replay through the computer's audio card. Digitized audio is used to provide a clear "soundtrack." Programs using digitized audio allow the student to hear human voice that has been recorded in a sound studio then converted to a digitized signal that can be stored on a diskette, a hard drive, or most frequently, on a CD-ROM. Students using these programs hear a very clear human voice giving directions, reading a passage from a text, or pronouncing vocabulary words and their definitions. Audio is typically played through headphones or speakers.

Directory—A part of the filing hierarchy on a hard drive that can contain files or other directories. Directories are analogous to file folders in a filing cabinet; each holds a set of information that is somehow related. A directory for DOS/Windows programs is analogous to a folder for the Macintosh™.

Disk Capacity—The maximum amount of data that can be stored on a disk.

Disk Drive—A device that reads and writes information from and to disks. (see also **Diskette**)

Diskette—Diskettes are convenient, portable storage devices. The most commonly used diskettes in the early phases of microcomputer use were 5 1/4 inches in diameter and were "floppy," that is, not rigid. They were stored in a lightweight, flexible plastic envelopes. They typically stored 750 kilobytes of software or files. The most common disks currently are 3 1/2 inches in diameter and are stored in rigid plastic cases. The amount of software or files that can be stored on a disk is still limited; 2 megabytes is the maximum storage on most disks. In order to access the information stored on a diskette, the diskette must be placed in the computer's disk drive (sometimes called a floppy disk drive).

Document—What the user creates with an application. Documents store information that the user has inputted using the application.

Domain Name—The identification given to a computer on the Internet. Domain names are used to make sure that messages or requests for information are sent to the correct computer on the Internet. Domain names have two or more parts separated by periods. Example: NCAL's Gopher server is on the machine identified as `litserver.literacy.upenn.edu`. Each successive part of a domain name provides more detailed information about where the computer is located: "edu" indicates that this computer is at a U.S. education institution; "upenn" indicates that the computer is owned

and operated by the University of Pennsylvania; "literacy" indicates that the computer is operated by the Literacy Research Center (LRC) at Penn; "litserver" indicates which particular computer in the LRC is the one acting as the Gopher server.

DOS—An acronym for disk operating system. DOS is the main program that coordinates all functions of an IBM-compatible PC, from running programs to saving and loading information from disks.

Double Click—Pressing and releasing the mouse button twice when the pointer is on a selected object or icon. This action will open or access the item.

Downlink—Term used for the transmission of a television signal from a satellite to a user's television via a satellite dish.

Downlink Site—A place where a videoconference that is transmitted only by a satellite may be viewed.

Download—The creation of a copy of stored information and transfer of that copy from one computer to another computer.

Drag—To move a file or folder by holding the mouse button down while simultaneously moving the mouse. Dragging a file or folder provides the computer user with a convenient way to move and organize information.

E

EGA (enhanced graphics adapter)—EGA was the successor to the original CGA video standard on IBM and IBM-compatible computers. EGA adapters can display text or graphics in 16 colors on monitors compatible with EGA. EGA adapters are also capable of displaying smaller type (24 lines on any screen), which allows much larger passages of text on any screen.

Eject—To remove a diskette from the disk drive.

Electronic Network—A system of network media and communications devices that allows two or more computers to exchange information with one another.

E-Mail—A system for sending electronic messages from one user to another via an electronic network. E-mail messages can be sent internally from workstations within an office as well as externally to outside destinations.

EMS (expanded memory specification)—EMS is a standard for accessing extra memory on IBM-compatible PCs. The expanded memory is used directly by DOS and several other DOS applications.

Enclosure—Used in electronic mail to include documents (formatted and unformatted), software, graphics, digitized sounds, and movies with an e-mail message.

Error Message—A message that tells the user that an error has occurred either in the program or with the computer system.

Ethernet—A local area networking standard that transmits data at 10 megabytes per second. Ethernet networks usually use co-axial or unshielded twisted pair (UTP) cables to link computers and other devices together. (An unshielded twisted pair is a set of wires that are similar to a standard phone line, but the set has eight wires instead of four.)

Expanded Memory—On IBM-compatible computers, the next 384K of memory after the standard 640K of conventional memory. Original IBM-compatible computers were only able to store information in 640K of memory. As this became insufficient for modern programs, IBM developed the expanded memory addressing scheme to allow developers to create longer programs. The expanded memory scheme also proved insufficient for modern programs and was superseded by extended memory, though many terminate and stay resident programs (TSRs) are designed to be stored in expanded memory.

Expansion Card—A circuit board that allows the computer to perform an additional function. Expansion cards broaden the capabilities of a computer by adding specialized electronic circuitry that performs a specific task. Examples of expansion cards are modem cards, video cards, sound boards, and networking cards. Expansion cards are added to expansion slots.

Expansion Slots—Physical slots or set of pins inside a computer where expansion cards may be installed to enhance that computer's capacities as the need arises. Expansion slots are designed to a certain specification, such as ISA (industry standard architecture), EISA (extended industry standard architecture), NuBus, or PCI (peripheral card interconnect) standards. Only cards that are compatible with the particular type of slot found on a computer will work with that computer. (see also **Expansion Cards**)

External Modem—A modem located outside of the computer; an external modem connects to a port on the back of the computer. (compare with **Internal Modem**)

F

Fax—A telecommunications device used to send facsimiles of documents over telephone lines to other fax machines or computers. Fax machines use a combination of photocopier and modem technologies.

Fiber Optic Cable—A very thin strand of glass used to transmit pulses of light from one place to another. In computing, fiber optic cables are usually used to transmit data from one place to another at very high speed. Special hardware on either end of the cable translate electrical signals into pulses of light or vice versa, making electronic communication possible.

File Compression—Making files smaller than their original size so that they take up less space on the disk.

File Server—File servers are computers on a network that store files and software that can be shared by users on the network. Users can access the files or software on a file server using microcomputers linked through a network. The file server may also have a CD-ROM drive attached so that it can offer a wider range of software options.

File Sharing—The ability to share files with other computers on the same network.

File—Information, often a document or an application, saved on a disk.

Filing—Filing enables a computer user to organize all work done with a particular software program.

Flame—A USENET term referring to the textual haranguing some users apply to those who have violated the culture or etiquette (sometimes called “netiquette”) of USENET, made statements that are factually incorrect, bigoted, or otherwise objectionable, or simply made a beginner’s mistake.

Floppy Disk—A portable plastic disk that is used by the computer to store documents, files, and programs.

Folder—A part of the filing hierarchy on a hard drive that can contain files or other folders. Folders are analogous to file folders in a filing cabinet; they hold a set of information that is somehow related. Folders are analogous to the directories on DOS/Windows systems.

Font—Symbols, letters, and numbers that may be changed to distinctive sizes and styles.

Format—The process of preparing a disk for use. Disks can be bought that are already formatted; unformatted disks can be purchased as well. Once a disk is formatted for the user’s system (i.e., Macintosh™ or IBM), it can be used to store information.

FreeNet—Provides free Internet access to people in various communities, often through libraries, local community colleges, or universities, or through community-based organizations (CBOs).

Frequently Asked Questions (FAQ)—A document that provides a newcomer with a useful way to learn about a USENET newsgroup or LISTSERV.

FTP (file transfer protocol)—A system that allows users to transfer files from one computer to another across the Internet. Although it was originally developed as part of the UNIX operating system, there is now client and server FTP software for almost all types of computers and operating systems.



G

Gateway—A computer system that has the ability to transfer information between two incompatible networks by reformatting it.

Gopher—A menu-based server system for finding and retrieving resources on the Internet.

Gopher Mail—Allows the user to have any text document on a Gopher server sent to an e-mail account.

Gopherspace—The entire set of Gopher servers in the world.

Graphical User Interface (GUI)—An interface that uses icons, menus, and windows to display information and control the functions of the applications software, operating software, and the computer hardware. GUI interfaces alleviate the need to memorize a set of words or pseudo-words that tell the computer to perform particular operations (e.g., print, end program, etc.); instead, GUIs provide graphic representations of these commands. Compare with **Command-Line Interfaces**.

Group—A designated set of people on a computer network who have a particular set of access privileges to a directory or folder.

Guest—A person who uses a computer on a network without having to give a name or a password.

Guest Access—Level of computer access privileges that allows any user on a network to connect to a computer for file sharing or software use.

H

Hand-Held Device—Small, palm- or notebook-sized computers that usually are designed for some limited purpose. The most common examples include electronic dictionaries, calculators, language translators, and image scanners.

Hard Drive—A device that stores large amounts of computer information on a semi-permanent basis. Hard drives may be internal or external to the central processing unit. Instructional and administrative programs are usually installed on a hard drive so that they can be easily and rapidly used. Data stored on a hard disk may be read into the computer for use, manipulation, or change; data may also be deleted. Unlike RAM memory, however, information stored on a hard drive is not lost if the computer's power supply is interrupted or terminated. Hard drives are sometimes also called hard disks, permanent storage, Winchester drives, or the C drive.

Hayes AT Command Set—An industry-standard command set used to control modems that was designed by Hayes Microcomputers, Inc. Modems have a modicum of electronic intelligence; the computer can send commands to the modem to order it to do things like dial a phone number, hang up the phone line, or increase the data throughput. These commands must be stated in the right "language," or command set, for the computer to control the modem. Most modem makers have standardized their products to recognize the Hayes AT command set.

Highlight—To select a file, document, folder, or data within a document for manipulation (e.g., to move, cut, or copy).

Hub—A networking device that manages information flows between computers that are connected to it via some type of network media. Hubs play a role similar to human telephone operators in the first part of this century, when telephone calls had to be connected manually by operators plugging the right wire into the right connector when a call came through. Hubs electronically create connections between two computers so that they may exchange information. A network hub is the one device that is necessary to create a network. Sometimes also called a **Concentrator**. (see **Bridge** and **Router**)

Hypertext—Hypertext is a system for retrieving information from servers on the Internet using World-Wide Web (WWW) client software. Hypertext is key words or phrases in a **World-Wide Web page** that are “linked” electronically to other Web pages on the same server or any other server on the Internet; hypertext links can also be established to resources that are found on other information systems like Gopher or FTP. Normally, hypertext links are denoted by text that is underlined or displayed in a different color (usually blue). When one clicks on a hypertext link, the browser retrieves the information. For instance, in this sentence, Department of Education is underlined; if this were a Web page, clicking on Department of Education would bring up the Department’s Web page.



Icon—A picture-like symbol that may represent a disk, file, document, or other object or feature.

ILS (integrated learning system)—A complete software, hardware, and network system used for skills instruction. In addition to curriculum and lessons organized by level, an ILS usually includes a number of tools such as assessments, record keeping/report writing, and user biographical information that help to identify students’ learning needs, monitor progress, and maintain current student records.

Information Superhighway—See **National Information Infrastructure**.

Initialize—A means of preparing a disk to receive information by organizing its surface into tracts and sectors; initializing a disk that already holds information will erase the information. Initializing a disk is the same as formatting a disk.

Input—The transfer of information from an outside source (i.e., modem or keyboard) to a computer.

Insertion Point—The place in the document where the cursor is situated and new text is added.

Installer—A program used to update or install software.

Interactive Videodisc—Interactive videodisc (IVD) programs use a laser disc the size of a record album to store as many as 60 minutes of full motion video and several hours of high quality audio. Laser discs are very similar

to CD-ROMs, the only differences being the size of the disc and the amount of information a single disc can store (a gigabyte or more). With the proper software and wiring, a computer can control a videodisc player. This allows software developers to incorporate photographs, digital video, and digital audio into their instructional programs in larger quantities. Students using IVD programs have the opportunity to see standard computer text and graphics, full motion video, video still frames, and any combination of these types of visuals while listening to information played over the audio track. There are several types of videodiscs categorized by how they are used. The most common are known as Level 1 and Level 3. A Level 1 videodisc delivers video in a linear fashion, similar to a videotape. A Level 3 videodisc is designed to operate only as part of an interactive computer-based system. Typically, a Level 3 videodisc provides the user with control of the program. An input device such as a touch screen, light pen, mouse, or keyboard is used. The combination of computer software and full motion video delivered on the same screen became an option for adult literacy programs in the mid-1980s, when interactive videodisc programs like IBM's PALS (Principles of Alphabet Literacy System) were released.

Interface—The way in that a computer communicates with external devices or with the user. Examples include the card and/or port used to send information to a printer (printer interface) or the icons, commands, and menus in the operating system (user interface or human interface).

Internal Modem—A modem that is mounted inside the computer. (compare with **External Modem**)

Internet/internet—The Internet is the largest computer network in the world. Computers on the Internet have two things in common. First, all of the computers are connected to one another on a round-the-clock basis. Second, all of the computers use a common "language," the Transmission Control Protocol/Internet Protocol (TCP/IP), to communicate with one another. Services like America Online, Delphi Internet Services, and others provide their members with access to some or all of the information resources on the Internet, but the user's computer is not on the Internet per se because it does not remain connected twenty-four hours-a-day. The Internet provides software and document retrieval, electronic mail, bulletin boards, and other services to users. When referred to as the *Internet*, the term refers to the collection of networks around the world, with a common routing system, encompassing such public networks as NSFnet (Nation Science Foundation Network), as well as private networks, like those at universities. The generic term *internet* refers to the connection of two or more networks, in which the workstations at each network have the ability to share data and devices.



<No listings under J.>

K

K—Kilobytes; 1,024 bytes. (see **Byte**)

Keyboard—An input device that allows users to provide the computer with new information or directions for operation through a typewriter-like series of keys. Almost all computers have keyboards attached. Students use the alphanumeric keys to type in letters, words, sentences, or numbers. Keyboards usually have a set of arrow keys that allow the user to move the cursor around on the screen. Many basic skills programs use the arrow keys to allow students to point to a correct answer from among many possible choices on the screen.

Keyboard Shortcut—A combination of two or more keys that provide a command or set an option. Keyboard shortcuts essentially save time when editing, boldfacing, or changing a document in other ways.

Keywords—(1) shortcuts to specific destinations within certain applications or in some commercial on-line services; (2) words or groups of words used to search a database for entries that contain the keyword or keywords.

L

LAN (local area network)—Two or more microcomputers linked together via a system of cables and specialized software. LANs are usually confined to one building. All the computers linked in a LAN have the capacity to access the same library of software as well as other computers and printers on the network. LANs are often used to keep student records on a central computer called a file server.

Laptop—A compact computer that is portable. Using a laptop enables a computer user to work at various locations. Batteries supply energy for laptops for limited periods of time; electric cords can be used to run a laptop as well as to charge batteries.

LED (light emitting diode)—LEDs are small round lights found on the front of many modems and other electronic devices that are usually used to indicate that something is on or off or the status of some process the device is undertaking.

Light Pen—A light pen is an input device. A light pen typically has a cable that attaches it to the computer. The user touches the screen with the light pen to indicate a response.

LISTSERV—A form of one-to-many communication using e-mail. LISTSERVs work a little like subscribing to a magazine, except they are free and the authors are the people who receive the e-mail messages, not the organizer of the LISTSERV. One subscribes to a LISTSERV by sending a special message to an e-mail address with a command like "subscribe

LITERACY yourfirstname yourlastname" in the body of the message. The computer automatically adds your e-mail account to a list of e-mail accounts that get a copy of every message that is sent to the LISTSERV's "incoming messages" e-mail address (in this example, any message sent to LITERACY@nysernet.org would be sent to all the members of the LITERACY LISTSERV). Once subscribe, you will not only receive all messages sent to LITERACY@nysernet.org, you can also submit messages to LITERACY@nysernet.org for distribution to everyone who is a member. LISTSERVs are used to discuss issues in the field, solicit advice, coordinate action, or share information with others. LISTSERVs usually have a national or international membership and allow each user to access the collective knowledge and experience of thousands of people.

Local Access Numbers—Local telephone numbers that are called in order to gain access to an on-line service without dialing long distance.

LocalTalk—LocalTalk refers to the networking system that has been built into every Macintosh™ since 1984 as well as the special cables and connector boxes needed to create such a network.

Lock—Locking a file prevents it from being changed or deleted; however, a file that is locked can still be opened or copied. Disks can also be locked.

Log In—The process of establishing a connection over a network or modem with a remote computer so that the user's computer may exchange information with that particular remote computer. Usually requires the users to provide a user identification (a combination of numbers and letters) and a password so that the remote computer can make sure the user has the right to communicate with it.

Logs Off (plural of "log off")—The process of terminating a connection to a computer that a user has logged into earlier by way of a network or a modem. Sometimes also called logging out.

Lurk—The process of reading messages sent to a BBS or USENET newsgroup without replying in order to find out what is being discussed before making a contribution.

M

Macro—A program within a program that allows complex functions to take place without the help, work, or worry of the computer user. Macros are present in almost all applications.

Main Logic Board—A circuit board that holds RAM, ROM, custom integrated circuits, and other components. The main logic board enables the computer to operate.

MB—A megabyte is 1,000,000 bytes. (see **Byte**)

Memory—Another term for random access memory (RAM). Memory is a hardware component of a computer system that provides a short-term storage space for software and/or documents (by comparison, hard disks

and floppy disks are long-term storage). Memory serves two functions. First, it provides a storage space for instructions (called software) to the microprocessor; the microprocessor can only follow instructions loaded into memory. Second, memory provides a short-term space for storing work on a document. Changes are first stored in memory and only later saved to a floppy disk or hard drive. Memory is dependent on having an electrical supply to retain its contents; whenever the computer's power is turned off (or fails), the contents of the memory are completely and permanently lost.

Menu—A menu lists the commands that an application has to offer. Typical commands in a menu include Print, Open, Close, and Quit. The user chooses a command either by dragging through the menu and releasing the mouse button when the desired command is reached or by using a combination of keystrokes. Basically, a menu is a list of options in a program. Menu listings are located in different places in various programs; the most common location is across the top or bottom of a screen.

Message Board—A message board (also called a bulletin board) is a place where members of an on-line service or BBS post messages. It is analogous to a cork bulletin board. Electronic messages are posted as responses to other messages or to bring up new areas of discussion. Message boards are often organized into folders by topic.

Microcomputer—A type of computer that superseded the large mainframe computers that were developed during the 1960s and 1970s. Microcomputers use microprocessors, rather than vacuum tubes, to control the computers' actions and to perform all computation. The typical system uses a monochrome monitor, floppy disks for storage, and a keyboard for input. In the 1980s and 1990s, the word microcomputer was replaced by the word personal computer (PC).

Modem—Modem, short for **modulator/demodulator**, is a piece of equipment that connects a computer to a data transmission line (typically a telephone line of some sort). Modems allow two computers to exchange data with one another by converting the sending computer's digital signals into analog signals used for the phone lines and then back to digital signals for the receiving computer. Modems come in different data transmission speeds. Most modems can transfer at least 2,400 bits per second (bps); the most commonly used modems can transfer 9,600 bits per second or 14,400 bits per second. A modem can be installed either internally or externally.

Modem Port—A socket on the back panel of the computer used to connect a modem.

Modem Speed—Each modem is rated for the amount of information it can process per second. These ratings are stated in bits per second (bps) or bauds per second. Although slightly different in their meanings, modem manufacturers use them interchangeably. Generically, this rating is known as the modem's **speed** or **throughput**. Modems can be bought in speeds ranging from 300 bps to 56,000 bps. The most common speeds are 2,400, 9,600, 14,400, 19,200, and 28,800 bps. (see **Throughput**)

Monitor—A device that is connected to a computer and used to display text and graphics. Monitors are similar to regular television sets, but use a digital signal rather than an analog signal like televisions.

Mouse—The mouse is a pointing device that allows the user to control the movement of the cursor to any area on the screen.

Mouse Button—The button(s) on the top of the mouse. Moving the mouse controls the pointer, while the mouse button enables the user to initiate commands such as opening documents (by double clicking on the item) or highlighting text (clicking once on the item) within a document.

Mouse Keys—A feature that allows the user to use the keys on the keypad to control the pointer. Mouse Keys provide easy access to computer functions when working on documents.

MS-DOS—Acronym for the commonly used Microsoft Disk Operating System, which is a program that runs the software on personal computers. MS-DOS translates the processing power of computers into basic English, so that the user can initiate commands such as Copy, Open, or Delete on a floppy disk.

N

National Information Infrastructure (NII)—Also known as the information superhighway; proposal to develop high-speed data connections to every home and business in the United States so that individuals and businesses may exchange information electronically.

Newsgroups—Newsgroups are the basic unit of organization on the USENET bulletin board. Newsgroups are independent discussions on a topic. Each newsgroup's title has multiple terms divided by periods. For instance, the newsgroup on adult education topics is titled misc.education.adult. Newsgroups are organized hierarchically. The first term is the general topic; there are seven basic topics: misc, rec, talk, alt, news, soc, and sci. Each of these topic areas is further subdivided; in this example, the misc group has a subdivision on education; the subdivision on education has several groups on specific topics, including adult education. Within a newsgroup you will find all the messages posted over the last few days on the topic.

Network—Two or more computers connected electronically so that people using them can share files and devices (such as printers and modems) and exchange electronic mail. Special types of networks include local area networks (LAN) and wide area networks (WAN).

Network User—Term used to describe a person whose computer is connected to a network.

Note Pad—A desk-top accessory that enables the user to enter and edit small amounts of text. (Macintosh™ specific)

O

On-Line—The state a computer is in when it is connected to another machine via a network.

On-Line Chatting—See **Chatting**.

Open—A command that makes a file available so that the user can modify its contents, display it on screen, or send its contents to a printer or other network device for output.

Operating System—This program organizes the internal activities of the computer and peripheral devices. For example, an operating system manages information in the computer's memory.

Owner—On a network, the owner of a shared folder or disk is the person who can set or change the access privileges assigned to the shared item.

P

Packet—Packets are the basic unit of information transferred over an electronic network. Whenever a file, for instance, is transferred over the Internet, it is divided into smaller "chunks," to which the computer adds information needed to make sure that the chunks arrive at the proper destination (called "headers"). The header plus the data chunk is a packet.

Parallel Ports—Parallel ports are most typically used to connect printers to computers. Unlike serial ports, parallel ports send 8 bits of data simultaneously over 8 wires which allows for a faster relay of information than can be attained from serial ports. (see **Serial Port**)

Password—A secret word or set of characters that a user must enter before gaining access to a secured computer file or application.

Paste—A command that enables the user to move information that has been cut or copied to a new location within the same document or into an entirely different document.

PC-DOS—PC-DOS is the IBM brand of DOS; differences between PC-DOS and MS-DOS are minimal. PC-DOS can also be run on non-IBM computers.

PC—An acronym for personal computer. Before the introduction of the IBM-PC, most PCs were called microcomputers. After the initial arrival of the IBM-PC, the term personal computer came to be applied to all personal computers, even those not produced by IBM.

PC Card—PC Cards (sometimes also called PCMCIA cards) are credit card-sized devices that add functionality to a computer. Because of their small

size, PC Cards are usually used to extend the capabilities of portable computers. PC Cards may contain additional memory, a modem, network interface circuitry, small hard drives, or other devices. There are three types of cards: Type I, Type II, and Type III. The principal difference between these cards is their thickness: Type I is 3 millimeters thick; Type II, 5 millimeters; Type III, 10 millimeters. PC Cards are installed in PC Card slots on a computer. Normally, PC cards may be added or removed when while the computer is turned on.

PCMCIA Cards—see PC Card.

Pentium—The latest version of Intel Corporation's microprocessors. The Pentium is the successor to the 80486 processor. The Pentium processor is compatible with Microsoft DOS, Microsoft Windows, and IBM's OS/2 operating system. The Pentium processor is 20 to 100% faster than the 80486 processor.

Peripheral Device—A device on the outside of the user's computer (i.e., modem, disk drive, or printer) that is under the computer's control.

Pointer—An icon that moves on your screen as you move your mouse. It can be shaped like an arrow, hand, clock, or blinking vertical line.

Port—This is a socket on the back panel of the computer that allows the user to connect her/his computer (with a cable) to peripheral devices.

Posting—A message sent to a newsgroup or bulletin board.

Printer—An output device used to create text and graphic images on paper. Printers come in three types. *Laser printers* produce the highest quality output and highest printing speed, but are generally more expensive than ink jets and dot matrix printers. *Ink jet printers* use a stream of tiny ink dots to create images on paper. Because the ink does not dry immediately, the image tends to smudge and blur. However, ink jet printers are substantially cheaper and can produce high quality output if used carefully. *Dot matrix printers* create images by tapping tiny pins against a ribbon as the cartridge moves across the page. Dot matrix printers are slower and produce output generally considered unsuitable for professional purposes. Dot matrix printers are usually cheaper than ink jet printers. The print command allows the user to print excerpts from a document as well as entire documents.

Program—A program is a set of instructions describing operations for a computer to perform to accomplish a task. A program corresponds to the rules of the computer language it is written in; computer programs are commonly referred to as software. Word processing software is an example of a program.

Prompt—In DOS, C:\> indicates that the user needs to input a text command. The DOS prompt is the most commonly used prompt; other programs use their own prompts, which are designed to show a computer user where information needs to be entered.

Protocol—A standard set of procedures that regulates how computers exchange information.

Pull-Down Menu—A menu (commonly found in the menu bar) whose name and/or icon is shown. Essentially, a user pulls down the menu by pressing down the mouse button and dragging the mouse until s/he reaches the option to be selected and then releasing the mouse button.

Q

<No listings under Q.>

R

RAM (random access memory)—RAM is the memory the computer uses to temporarily store information that the microprocessor needs to operate a computer program. Information stored in RAM is lost the moment power to the computer is interrupted. The amount of RAM determines the number of programs that can be open on the computer simultaneously.

Real Time—Communication where information is received at (or nearly at) the instant it is sent.

Registered Group—A group of registered users listed on a computer network.

Registered User—A network user whose name and password are listed as having access privileges to a computer on the network. Registered users are provided with access privileges that are denied to guest users.

ROM (read only memory)—ROM stores special instructions that the computer needs in order to run properly. As the name implies, information stored in ROM is never changed, only read as needed.

Root Directory—The main directory on every DOS disk, usually represented by a “\”.

Router—A device that has two functions. First, routers allow information to flow between incompatible types of networks by translating the information from one format into the other when necessary. Second, routers help to make sure information gets to the proper destination by processing packets as they arrive and sending them on the correct destination computer or the next router on the network for further processing. (see also **Bridge** and **Hub**)

RS232 Port—An industry standard port found on modems and some types of printers. RS232 ports usually have 25 pins in two rows on a rectangular socket. RS232 ports are serial ports used to transfer information from a computer to a peripheral device and vice versa.

S

Save—Storing information by transferring it from main memory (RAM) to a disk or hard drive. It is essential to save information while working, as work not saved will be lost when the computer is turned off or during power interruptions.

Scanner—A device that converts a printed page into an electronic representation that can be viewed and manipulated on the computer. Scanners are often used to convert photographs into electronic representations so that they can be included in documents created on the computer.

Scroll—Using scroll arrows, scroll bars, or scroll boxes allows a computer user to move vertically or horizontally within a window thereby enabling the user to view more of a document or directory.

Search Criteria—See **Boolean Searches**.

Search Term—See **Boolean Searches**.

Select—Selecting refers to choosing which object (e.g., text, graphics, or documents) will receive the user's next command or instruction. Selection is most commonly accomplished by single clicking and/or dragging the mouse.

Self-Extracting Archive—In most instances, a compressed file must be decompressed using the software that initially compressed the file. Self-extracting archives, however, decompress themselves when the user opens them; the original compression software is not needed. The archive contains the individual file as well as routines necessary to compress and decompress the file. Usually a self-extracting archive is automatically decompressed by double clicking on its icon (Macintosh™), by using the Run command (Windows) or by typing in the file name at the DOS prompt (DOS). This procedure restores the file to form usable by the computer. Most self-extracting archives have ".sea" at the end of the file name.

Serial Port—A port that allows the computer to communicate with peripheral devices such as mechanical mice and modems. Serial ports may send or receive data one bit at a time over a one-way wire. (Eight bits form a byte, or 1 character of information.) Compare with **Parallel Ports**.

Server—A central computer with special software that provides services to other computers. Servers are most commonly used to store a set of files that other users may access.

Service Provider—An organization that provides network access to users via modem or some sort of high-capacity network media like coaxial or fiber optic cable.

Set-Top Box—A device used to connect a television to a data network. Set-top boxes are similar to existing cable de-scrambler boxes, but usually provide more functionality. For instance, most set-top boxes include support for a pointing device such as joystick on a remote control and can project a graphical user interface on the television screen to help the user navigate through the service's offerings. Few cities have such data networks in place yet—set-top boxes are used primarily in **National Information Infrastructure** testbed sites.

Shared Disk—Any storage medium (i.e., hard drives, CD-ROMs, etc.) whose contents can be retrieved over the network. A disk can be shared by a file server or by a Macintosh™ computer that has file sharing “active.”

Shared Folder/Directory—A folder/directory available to some or all network users on a given network.

Shareware—A category of software that is shared by publishers with the general public (i.e., via the Internet). Shareware is not free. Publishers ask that if you like a product and plan to use it, you send the author the required fee. Collection of shareware fees is based largely on the honor system.

Snail Mail—The derisive term used by many Internet users for postal mail.

Source—A disk or folder that holds the original of a file that is to be copied or translated (e.g., a source disk).

Startup Disk (or startup drive)—A disk that contains necessary program files that enable a computer to be set into operation.

SVGA (super video graphics adapter)—The successor to video graphics adapter (VGA) for IBM and IBM-compatible monitors. SVGA supports 256 colors as well as the use of digitized color photographs and full motion video. SVGA has been superseded by XVGA.

Syntax—Syntax refers to the format of a DOS command: what the user types, options available, the order of the options, and what they specifically do. When a command is typed out of order, DOS signifies to the user that a “Syntax error” has occurred. A user must find out the correct order of the syntax and retype the command.

Synthesized Audio—Synthesized audio is the robotic sounding audio used in a variety of instructional software to simulate human speech. The quality of this type of audio has improved since it was introduced in the early 1980s. It is used mainly as a way for students to hear a pronunciation of text presented on the screen or for the computer to read back to them what they have just typed.

System Extension—A program designed to expand the capabilities of an application or of the operating system. Users can find system extensions in the extensions folder (located in the system folder). (Macintosh™ specific)

System File—The file that Macintosh™ computers use to start up and provide system-wide information, such as sounds and keyboard layouts. The system file must be in the system folder. On the Macintosh™, this file,

33

together with the ROM and the finder, make up the operating system. (Macintosh™ specific)

System Folder—This folder contains the programs that a Macintosh™ computer will utilize to initially start-up and continue operating. The startup disk contains a system folder.

System Software—Software components that support application programs by managing system resources (such as memory) and input and output devices. (Macintosh™ specific)



Transmission Control Protocol / Internet Protocol (TCP/IP)—A protocol for transmission of electronic data from one computer to another, originally developed by the department of defense. TCP/IP is currently the *lingua franca* of the Internet.

Telecommunications—Communication of information from one place to another using one of many transmission media, both wired and wireless.

Teleconference—An interactive conference broadcasting from one main site, reaching attendees at other remote sites. The attendees view the conference in real time on a television monitor and have the opportunity to participate by calling the presenters.

Telecourses—An interactive telecourse provides an opportunity for one teacher to reach students in many locations at once. Typically the instructor teaches to a regular class in a classroom equipped with television cameras and microphones. The teacher's image and voice is then sent through microwave transmission, cable TV, or other sophisticated "narrowcasting" format to remote classrooms or homes. Remote classrooms may be equipped with television cameras and microphones so that the instructor can see and hear the students attending class in the remote location. Students at home watching a telecourse on cable TV might have the opportunity to call the instructor during class to ask a question or participate in a discussion using an 800 telephone number.

TELNET—An application that allows the user to log into a remote, usually UNIX-based computer over the Internet.

Terminal—A device that is able to communicate with a host computer.

Testbeds—Usually refers to a network system that is installed to test out new equipment or software. Usually testbeds are used to transmit simulated information, although in some cases, testbeds are established that are tested on the operating part of the Internet or used with test groups outside the laboratory. For instance, Bell Atlantic has established a video-on-demand system in suburban Washington, DC to see how people will use the system.

Text Editor—Software that allows one to type and edit text.

3.5 - Inch Disk—Encased in plastic shells and 3.5 inches in diameter, these disks are available in three formats: high-density (1.4 MB capacity on the Macintosh™), double-sided (800K), and single-sided (400K). A disk enables the user to carry stored information to different computers.

Throughput—The rate at which data may be transferred from one computer to another via some sort of electronic medium. Usually measured in bits per second, kilobytes per second, or megabytes per second.

Title Bar—The title bar serves as a name tag for an open window. The titles themselves are useful when searching for lost files.

Touch Screen—The touch screen allows the user to input information by actually touching the screen of the computer's monitor. Sometimes an electronic device called a light pen is used to touch the screen, but often the student uses his/her finger or the eraser of a pencil. Like the mouse, the touch screen allows a great deal of flexibility in terms of input options. Two disadvantages compared to the mouse are (1) reaching up to touch the screen repeatedly can be very tiring and (2) there is a perceived loss of privacy since anyone in the room might be able to see the student's responses as s/he touches the screen.

Trash—An icon found on the desktop of a Macintosh™ computer that is used to "throw away" documents, files, and folders. Once documents are "put in the trash" and the trash is "emptied," they cannot be retrieved. (Macintosh™ specific)

U

UNIX—An operating system created by AT&T that incorporates the TCP/IP networking protocol. Most servers on the Internet run the UNIX operating system because UNIX is heavily integrated with TCP/IP and because UNIX was optimized to handle requests from multiple network users.

Uplink—The ability to send or broadcast video to a satellite, from which it is downlinked to one or more sites for broadcast, narrowcast, closed-circuit viewing, or for storage on videotape

Upload—The process of sending a copy of a file (i.e., software, graphics, formatted and unformatted documents, digitized audio, or digitized video) from a user's computer to a server.

USENET—A one-to-many communication system on the Internet that is also available on some smaller networks as well (like FIDONet, which is found in many developing countries). USENET is an informal news and information transfer system that allows users to exchange messages on a bulletin board-like system. (see also **LISTSERV** and **BBS**)

User—A person who is operating a computer or running a program. The term *user* refers to all persons who use computers.

User Interface—The user interface is a messenger of sorts that allows the user to interact with and control the computer's operating system. Graphical

user interfaces allow the user to interact with the operating system by manipulating icons or menus. Command-line interfaces allow users to interact with operating systems by entering commands from the keyboard.

V

VCR—A videocassette recorder is a device used to record and play broadcast videos or show films.

Version—This number states a program's chronological position relative to old and new releases of the program.

VGA (video graphics adapter)—VGA superseded EGA. VGA can support 16 colors on most monitors; in some cases VGA video adapters can support 256 colors. VGA was superseded by SVGA.

Video Adapter—A computer board that plugs into a slot on the computer's main circuit board and allows the computer to display text and graphics on a monitor.

Videoconference—A television presentation, usually via satellite, distributed to a limited audience. Videoconferences are often live and focus on a single topic.

Virtual Memory—A function that allows a computer to use a specified amount of hard disk space as if it were RAM.

Virus—A destructive type of computer program that attempts to interfere with the normal operation of the computer, re-write or delete information from hard drives or floppy disks, and, in some cases, cause physical damage to the computer. Viruses are usually developed by programmers to demonstrate their technical expertise and often are not intended to cause harm. Viruses can be spread from computer to computer over networks and by sharing floppy disks. Several free and commercial software packages are available that can detect and remove viruses already on a computer; these packages can also prevent infection by continuously monitoring the computer for signs of infection.

W

WAIS (Wide Area Information Servers)—A database system available in Gopher and World-Wide Web. WAIS databases are full-text search databases, which means that the search engine searches the entire document for the word or words specified in the search criteria. WAIS ranks all documents that contain the search criteria by the number of times the word or words appear in the document. Once WAIS finds documents that match the search criteria, it then allows the user to read the actual document, unlike a library card catalog, which only provides an abstract of the book or journal.

Web Pages—Documents found on World-Wide Web servers on the Internet that usually include pictures, audio clips, graphics, and text. Web pages also include **hypertext** links to other resources on the network. (see **World-Wide Web**)

Wide Area Information Servers (WAIS)—See **WAIS**.

Wide Area Networks (WAN) (i.e., Internet)—A network that spans many geographically dispersed locations. A WAN links local networks or individual users through special telephone line, such as a leased line or fiber optic cable, provided by a telecommunications service.

Window—This rectangle displays information on the desktop. Windows enable the user to view the contents of a disk as well as to create and view documents. Most windows include scroll bars on the right side that allow you to move up and down in the document and buttons that allow you to close the window or make the window smaller or larger.

World-Wide Web (WWW)—A **hypertext**-based system for finding and accessing Internet resources. World-Wide Web divides information into Web pages, which contain text, graphics, digitized audio, digitized video, and **hypertext** links to other Internet resources like Gopher, FTP, TELNET, and the USENET bulletin board. Using WWW it is also possible to search databases and answer on-line surveys.

XYZ

XVGA (Extended VGA)—XVGA is the current successor to SVGA technology. XVGA can display 256 colors in normal operating mode; some applications can display thousands of colors.

Zone—Zones are used to subdivide a network so that network traffic can be handled more efficiently, thereby making a network easier to access. (Macintosh™ specific)

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Discusses issues related to the use of technology in literacy programs, such as how decision makers can sort through claims made by hardware and software vendors, and how scarce resources can be found to purchase technology. The paper also provides a framework for incorporating technology into the curriculum. Available from: National Center on Adult Literacy, University of Pennsylvania, 3910 Chestnut Street, Philadelphia, Pennsylvania 19104-3111.

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Discusses the use of integrated learning systems to augment classroom instruction for elementary and secondary education as well as for adult learners and describes the software and management components that are offered by eight vendors. Topics addressed include software, graphics, multimedia, remedial learning, and learning environments.

- Willets, K. (1990). *Computer-assisted language learning*. ERIC CLL Minibib. Washington, DC: ERIC Clearinghouse on Languages and Linguistics.

This is an annotated list of eight articles and three documents in the ERIC database on the subject of computer-assisted language learning. Available from: ERIC Clearinghouse on Languages and Linguistics, 1118 22nd Street N.W., Washington, DC 20037.

- Willets, K. (1989). *Technology and second language learning digest*. Washington, DC: National Clearinghouse on Literacy Education. (ERIC Document Reproduction Service No. ED 350883)

Technology is becoming a bigger part of both in-class and home study, as the traditional use of audio and films is supplemented by computer-assisted instruction and interactive media technologies. This digest defines computer-related capabilities for language learning and types of technology-assisted activities.

- Young, D., & Irwin, M. (1988). *Integrating computers into adult literacy programs*. *Journal of Reading*, 31(7), 648-52.

Suggests effective means of integrating computers into adult literacy education using commercial word processing and database programs. Points out that activities used in most "reading software" are not consistent with the cognitive view of comprehension.