Adaptive Technology Equipment for the Library

Screen Magnification Programs

by Christine Lisiecki

The New Jersey Library for the Blind and Handicapped (NJLBH), located in the state capitol of Trenton, offers recorded, Braille, and large-print books. These items are provided to New Jersey residents who are unable to read print because of a visual or physical disability. The library is part of the National Library for the Blind and Physically Handicapped and the New Jersey State Library, which is affiliated with Thomas Edison State College.

For the last 5 years, the New Jersey Library for the Blind and Handicapped has administered a grant that loans adaptive equipment to colleges in New Jersey for use by students with disabilities. During this time, we have made it a point to become knowledgeable about the adaptive equipment. The grant requires us to handle both equipment loans and technical assistance in the form of information and training on this equipment.

In addition to our grant business, public libraries throughout the state have always turned to NJLBH for assistance in making their libraries accessible to all their patrons. Every couple of years we hold a fair at which adaptive technology is highlighted. Consequently, we must stay on top of developments in this field.

The area of adaptive technology is growing so rapidly (because of the frequent changes in technology in general) that it is impossible to stay up on every new piece of equipment that comes along. However, this article will highlight some of the technology that is useful in a library setting. Many of the adaptive software programs can be turned off and on as needed; libraries do not always need to have separate computers for adaptive workstations.

Accommodating Low Vision

Vision loss can range from the loss of some sight to the loss of all usable vision. It can affect a person's ability to read, write, and access information. Most people with a vision loss access information by magnifying print or by using a voice output device.

For someone with low vision, which is defined as a level of vision that is below normal after correction and cannot be completely corrected with lenses, surgery, or treatment, magnification devices can provide them with the ability to access much of what is in a library's collection. An item such as a Closed Circuit Television (CCTV) may be all that is needed to make the print material in a library accessible. A CCTV is a freestanding device consisting of a video camera and a television-type screen. A sliding tray under the camera accommodates most any reading material. Magnification can be from 2x to about 60x. CCTVs can be stand-alone units or can be hooked up to PCs to perform double-duty reading tasks.

Screen magnification programs can be added to make a PC or terminal accessible. One example is a product called ZoomText Xtra from Ai Squared. This product is compatible with Windows 97 and allows full-screen or partial-screen enlargement. Magnification of full-motion video playback from encyclopedias and other multimedia applications is also available with ZoomText Xtra. Such a program can make an online catalog or the Internet accessible to the patron with low vision.

Screen Readers and Voice Output Mechanisms

The most basic technology of voice output is books on tape. This is an easy accommodation for a library to make, and many have already made this technology available. However, to access the online catalog or the Internet, a patron

Different equipment is demonstrated at an adaptive technology fair at NJLBH.
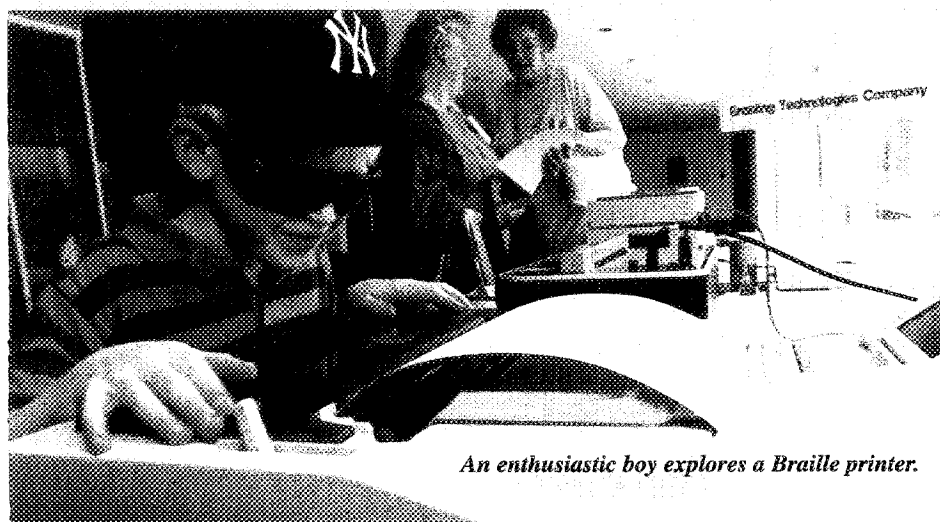
An enthusiastic boy explores a Braille printer.

with little usable vision will need a screen reader. Screen reading software can convert the text or graphics display on a PC into verbal output.

When screen readers first came out, they could only handle reading text in DOS-based programs. The Windows environment was difficult for screen readers. Assistive technology took a while to catch up. Now, screen reading programs for the Windows environment are improving rapidly. One such example is JAWS (Job Access With Speech) for Windows from Henter-Joyce. With this software, a blind individual would have access to speech output on a PC that a library is using to access its catalog or the Internet. JAWS works well with Microsoft Internet Explorer. This provides visually impaired individuals with access to information that formerly was denied to them. For a two-in-one package deal, ZoomText Xtra also has speech capability.

For access to information that is only in print, such as books in your reference collection, an item like the OMNI 1000 from Kurzweil Educational Systems, Inc. can be useful. Sold as software only or as a complete system, the OMNI 1000 provides the ability to scan in information from a book, newspaper, or magazine and have it read aloud by the screen reader. This provides access to books and printed material that was formerly out of reach of patrons who are blind.

Adaptive Technology Vendors

This is not meant to be a comprehensive list of vendors or their products, but rather a resource to get your shopping started. For more information, see also Michael Schuyler's column and vendor list, which start on page 24.

Ai Squared
P.O. Box 669
Manchester Center, VT 05255-0669
802/362-3612
http://www.aisquared.com
Products:
Screen magnification software

American Printing House for the Blind
1839 Frankford Ave.
P.O. Box 6085
Louisville, KY 40206-0085
502/895-2405
E-mail: info@aph.org
http://www.aph.org
Products:
Specialized cassette and recorded disc players and recorders
Handheld magnifiers

Blazie Engineering
105 E. Jarrettsville Rd.
Forest Hill, MD 21050
410/893-9333
Fax: 410/836-5040
E-mail: info@blazie.com
http://www.blazie.com
Products:
Note-takers for the blind
Braille embossers

C-Tech
2 North William St.
Pearl River, NY 10965

914/735-7907; 800/228-7798
Fax: 914/735-0513
E-mail: library@magnifyit.com
Products:
Software that scans and reads aloud
Large-print-capable monitors, printers

Dragon Systems, Inc.
320 Nevada St.
Newton, MA 02160
617/965-5200
Fax: 617/630-9707
E-mail: info@dragonsys.com
http://www.dragonsys.com
Products:
Speech recognition software

Duxbury Systems
435 King St.
P.O. Box 1504
Littleton, MA 01460
978/486-9766
Fax: 978/486-9712
E-mail: info@duxsys.com
http://www.duxburysystems.com
Products:
Software for creating Braille

Henter-Joyce, Inc.
11800 31st Court N.
St. Petersburg, FL 33716
800/336-5658
Fax: 813/803-8001
E-mail: info@hj.com
http://www.hj.com

Products:
Screen reading programs

Kurzweil Educational Systems, Inc.
411 Waverly Oaks Rd.
Waltham, MA 02154
800/894-5374
http://www.kurzweiledu.com
Products:
Software that scans and reads aloud

Maxi-Aids
P.O. Box 3209
Farmingdale, NY 11735
800/522-6294; 516/752-0521
Fax: 516/752-0689
TTY: 516/752-0738
E-mail: sales@maxiaids.com
http://www.maxiaids.com
Products:
Teletypewriter (TTY)
Closed caption decoder
Assistive listening devices
Customized keyboards, mouses, switches and trackballs
Page magnifiers
Handheld magnifiers

Phonic Ear, Inc.
3880 Cypress Dr.
Petaluma, CA 94954-7600
800/227-0735
http://www.phonicear.com
Products:
Enhanced listening systems

—vendor list compiled by Althea Robinson, technical coordinator for the New Jersey College Resource Center for Adaptive Aids

Accommodating Those with Learning Disabilities

For individuals with learning disabilities, many of the programs made for those with visual impairments will be helpful. In the case of the scanning and screen reading needs, Kurzweil Educational Systems provides the Omni 3000, which is geared specifically to those with learning disabilities. It has the features of the OMNI 1000 but adds one other useful feature: The text that is scanned is shown on the screen. The text is highlighted while the screen reader is reading the text. This allows a person with a learning disability to follow along with the spoken text, to improve their understanding and their reading ability.

Accommodating the Deaf and the Hard of Hearing

The problem faced by most people who are deaf or hard of hearing in a library is basic communication. One of the most important devices to have in a library is a TTY (teletypewriter). This device is attached to a telephone. The pa-

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Adaptive Technology Web Sites

Assistive Technology Online Sources
http://www.fcsn.org/at.htm

Center for Applied Special Technology
http://www.cast.org/bobby
Access Bobby to check your Web site's accessibility.

disABILITY Information and Resources
http://www.eskimo.com/~jlubin/disabled

EASI (Equal Access to Software and Information)
http://www.rit.edu/~easi/index.html
This has online workshops that focus on adaptive computing technology and on creating accessible Web pages.

Lists of Vendors
http://www.nyise.org/vendors.htm

pwWebSpeak
http://www.prodworks.com

"The Internet is becoming the great equalizer for people with disabilities."

tron using a TTY at home can contact the library that has a TTY to request books, sign up for programs, or ask reference questions. Staff can easily learn to use a TTY. It needs to be connected to a dedicated phone line, and then messages can be typed back and forth between the patron and the library.

Programs that are held in the library should have a sign language interpreter to interpret what is being said. If an interpreter is not available, you should consider Real Time Captioning. This is where a specially trained stenographer types what is being said into a computer loaded with a special software package. This information is then put on an overhead screen so that the audience can read it. This is a service that is provided for a fee by various companies. Check with your local office on disabilities services or deaf organizations to locate a company in your area.

For those who are hard of hearing, an assistive listening device would be helpful. The Easy Listener Sound Field FM System from Phonic Ear, Inc. provides a transmitter and microphone that the speaker wears. Receivers are then provided to the audience members who need them. These work well particularly with older patrons who are not profoundly deaf and so may not have learned sign language.

What About the Internet?

The Internet is becoming the great equalizer for people with disabilities. It provides huge quantities of information that can be accessed through adaptive equipment. With e-mail, patrons with disabilities can ask reference questions or request books. They can find information from your Web site about your next event or your summer reading program. But, do you know whether your Web site is accessible to your special-needs patrons? Visit Bobby to find out. Bobby is a Web-based

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public service offered by the Center for Applied Special Technology. It analyzes Web pages for their accessibility to people with disabilities. It also checks the site's compatibility with various Web browsers.

Do you just need a Web browser that speaks? Look into Productivity Works and its pwWebSpeak program. It is an Internet browser for people who wish to access the Internet in a nonvisual or dual-mode manner.

Allowing Access for All

I have listed only a few types of adaptive technology here. There are numerous products available in each category and more are being produced each day. Adaptive technology, for the most part, is priced just a little higher than non-adaptive technology because the demand is not as high. But cost should not be a major factor in deciding whether to purchase adaptive equipment. Most libraries receive some kind of federal funding, and therefore are required to comply with the Americans with Disabilities Act (ADA) rules. An even more compelling reason to comply is simply to make your library's resources accessible to people with various disabilities.

To that end, remember: Once you have the adaptive technology, advertise the fact. Many people with disabilities do not generally expect much from their libraries. For much of the time they have not been able to access any library except the National Library Service for the Blind and Handicapped. If you have made your library accessible, let your public know it. People can not use what they do not know about it. ▲

Christine Lisiecki has been a librarian at the New Jersey Library for the Blind and Handicapped for 14 years. She is the head of the Readers' Services and Machine Lending departments, and is the program manager of the New Jersey College Resource Center for Adaptive Aids. She provides reference services to library patrons, other libraries, and anyone who needs information on disabilities or adaptive technology. Lisiecki has an M.L.S. from Rutgers University in New Jersey. Her e-mail address is clisiecki@njstatelib.org. The NJLBH Web site is http://www.state.nj.us/statelibrary/njlbh.html.