

Information Power to All Patrons

Barbara T. Mates

Abstract

Prior to the digital age, people with disabilities that prevented them from using traditional print resources had little choice when it came to accessing information. If they had a visual impairment or learning disability, they could contact their local National Library Service for books on tape or in braille, contact Recording for the Blind and Dyslexic, or find a sighted reader to record or read the information aloud.¹ If they had a physical disability, there were devices that would hold a book and turn the pages, with the inconveniences of pages sticking or being skipped while turning. The birth and rapid growth of digital technology heralded a new era of information access and changed forever the possibilities of information equality. Unfortunately, many people with disabilities are on the wrong side of the digital divide because of lack of money to purchase equipment and Internet services, or, in some cases, they simply do not realize the importance of computer technology. Chapter 1 of LTR (vol. 48, no. 7) “Making Libraries Accessible: Adaptive Design and Assistive Technology” discusses how libraries can truly change lives by making accessibility a reality.

About the Author

Having retired after twenty-five years as head of the Ohio Library for the Blind and Physically Disabled, Barbara T. Mates now works as an independent consultant specializing in topics related to senior services and accessibility options for persons with disabilities. She is a longtime member of ALA’s Association for Specialized and Cooperative Library Agencies (ASCLA), having served as the association president in 2007–2008, and she chaired ALA’s 2010 Schneider

Family Book Award Committee. Mates has presented numerous papers and workshops across the country, and she is the author of *5-Star Programming and Services for Your 55+ Library Customers* (ALA, 2003); “Computer Technologies to Aid Special Audiences,” which appeared in *Library Technology Reports* in 2004; and “Assistive Technologies for Today’s Libraries” for *American Libraries* (2010). In 2001 Mates received the prestigious Francis Joseph Campbell Award. In 2010 she received the ASCLA 2010 Exceptional Service Award for her advocacy on behalf of persons with disabilities and older adults in regard to library services as well as within the ALA infrastructure.

There “Oughta” Be a Law (and There Is)—Laws, Regulations, and Guidelines for Services

It is important to be aware of the laws that govern access to information for persons with disabilities, as failure to comply on the part of libraries may be cause for litigation. Applicable laws are Sections 504 and 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, which was amended in 2008 and reaffirmed in 2009.² Section 8 of the Americans with Disabilities Accessibility Guidelines (ADAAG) specifically addresses libraries.

Briefly, these laws mandate that persons with disabilities have access to public programs and services (including electronic). Therefore, if the library offers free access to computers and training, it must offer access for persons who need adapted access avenues. Reasonable accommodations must also be made for the needs of staff with disabilities. The ADA itself is organic and continues to be refined to recognize the

fact that technology is in flux; thus, it is useful to consult the main ADA website to peruse the latest publications and decisions and determine if your library is in compliance.

ADA Home Page
www.ada.gov

The publications *2010 ADA Standards for Accessible Design* and *Guidance on the 2010 ADA Standards for Accessible Design* are available on the ADA website at www.ada.gov/2010ADASTandards_index.htm. Visitors may register online to receive updates on potential changes to the standards.

ALA Takes a Positive Stand on Accessibility for All

The section “Mission, Priority Areas, Goals” in the *ALA Policy Manual* states that the work of the association and libraries is “to ensure access to information and enhance learning and ensure access to information for all,” and the preamble to the Library Bill of Rights clarifies that “all libraries are forums for information and ideas.”³ An interpretation of the Library Bill of Rights reads, in part: “ALA recognizes that persons with disabilities are a large and often neglected part of society. In addition to many personal challenges, some persons with disabilities face economic inequity, illiteracy, cultural isolation, and discrimination in education, employment, and the broad range of societal activities. The library plays a catalytic role in their lives by facilitating their full participation in society.”⁴

Show Me the Numbers

Determining accurate statistics for persons with disabilities is a difficult task, as the term *disability* is subjective, so the meaning varies with the person being queried. For example, a person whose vision is so limited that she must be three inches from a monitor may not identify herself as disabled because she can still read text on the screen. Many young people with learning disabilities may resist identifying themselves as disabled as they fear that it would make employment difficult down the line or result in other forms of social stigma. This reaction replays itself throughout the disability spectrum; hence, the number of persons with disabilities is almost certainly underreported.

That said, the most current disability statistics indicate that close to 54 million people (approximately 19 percent of the US population) have some type of

disability. Of these, 1.8 million have trouble seeing the printed word, 1 million have difficulty hearing spoken conversations, and 16 percent have some type of cognitive problem that prevents them from performing normal daily living activities.⁵ These numbers indicate that there are many people in any given library’s service area who use assistive technologies and need electronic resources that are in compliance with the Web accessibility standards such as those defined by the World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines (WCAG), which are outlined in more detail in chapter 4. (Chapters 2 and 5 in this issue also deal with different types of assistive technologies.)

Web Content Accessibility Guidelines (WCAG)
www.w3.org/TR/WCAG

Failure by libraries to provide full access to information will prevent people from fully participating in the learning process and, more important, accessing documents vital to their well-being. Statistics indicate that people with disabilities do not have the same educational attainments as those without disabilities (28 percent of those with disabilities did not have a high school diploma, compared to 12 percent of the nondisabled population; 13 percent of those with disabilities had a bachelor of arts degree or higher, compared with 31 percent of those without a disability) and therefore do not have the same opportunities for employment.⁶

It is a good idea to take a snapshot of your library’s user community to determine the number of people with disabilities in the service area, as well as the reported types of disabilities. The US Census Bureau’s American FactFinder and the University of New Hampshire’s Institute on Disability (www.iod.unh.edu/Home.aspx) provide excellent resources and tools for determining the percentage of persons with disabilities in your library’s community.

U.S. Census Bureau: American FactFinder
<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

2011 Annual Disability Statistics Compendium (published by Stats-RRTC)
<http://disabilitycompendium.org/pdf/Compendium2011.pdf>

The Numbers for Persons with Disabilities Are Going “Boom”

The world has long been conscious of baby boomers, catering to their needs and wants simply because it was economically and politically advantageous to do so. Therefore, as the baby boomers age, it is wise to remember that they are affecting and will continue to affect the statistics for persons with disabilities. Age-related diseases such as macular degeneration, arthritis, and cognitive decline currently have no cure; thus, more and more patrons will need larger screen displays, alternate input devices, and easy-to-navigate websites. Experts predict that by 2030, rates of vision loss will double, along with the country’s aging population.⁷ If the library is in a community with an aging population, there will be a growing number of people with disabilities.

Types of Disability and Technology Solutions for Persons with Disabilities

It is essential for library staff to have a working knowledge of the various types of disabilities their user population may reflect so that they can tailor their services and tools most effectively. The corresponding assistive technology options introduced in the categories below and elaborated on in chapter 2 can and will be used by most persons within each specified disability type, but it is important to remember that people and their disabilities are unique. Each person will work to find his or her own access solution and should never have it forced on him or her by an instructor. It is important to remember that it is the library staff’s job to demonstrate and educate, but not to dictate.

Visual Impairment

Visual impairment is a broad-based term used to describe a myriad of vision problems. Most people have some type of impairment, whether being nearsighted or farsighted or having dry-eye syndrome, but they can use computers without special accommodations. However, there are also impairments that cannot be remedied, such as macular degeneration, color blindness, or poor vision. These people still have usable vision, but they cannot read standard print (print that is smaller than 14 points; most commercial print is standard print).

Assistive Tools

People with a visual impairment will often prefer using text and manipulating the text display to suit their needs. Patrons with low vision may seek to enlarge

ALA supports the following working groups that focus on serving patrons with disabilities:

- **The Association of Specialized and Cooperating Library Agencies** (ASCLA), www.ala.org/ascla, has discussion groups on assistive technology, as well as groups focusing on working with persons with specific disabilities, coordination of the Accessibility Assembly with representatives from all divisions, easy-to-use tool kits focusing on assistive technologies and working with patrons with specific disabilities, and **Think Accessible Before You Buy** (a guide for novices in the area of accessibility to use when purchasing electronic media).
- The Association of College and Research Libraries (ACRL) supports a **Universal Accessibility Interest Group**, www.ala.org/acrl/aboutacrl/directoryofleadership/interestgroups/acr-igu.
- LITA supports a **Universal Accessibility Interest Group**, www.ala.org/lita/involve/igs/universal/lit-iguacc.
- Association of Library Service to Children (ALSC) supports a blog that allows the sharing of access issues under the category **Special Needs Awareness**, www.alsc.ala.org/blog/category/special-needs-awareness.

the display font just a little, or they may supersize the cursor. People who have color blindness may need to change the background on page displays. Most people with usable vision will not use a screen reader.

Blindness

The accepted definition of legal blindness is complicated. In general, though, people who are blind have extremely limited vision.⁸ People who are blind may be able to differentiate between daylight and nighttime; however, their vision is so limited they cannot safely move about in unfamiliar areas without the aid of a cane, a guide, or a service animal.

Assistive Tools

People who are blind need to access information aurally or by touch. People who are blind listen to books and can listen to the Internet. If they read braille books, they can use braille displays to access the Internet. They are best accommodated by software that reads text aloud using synthetic text-to-speech software or by using refreshable braille displays.

Hearing Impairment and Deafness

Hearing impairment is a general term that applies to persons who have trouble differentiating certain frequencies, localizing sounds, and hearing certain pitches. People with hearing loss are often helped by using hearing aids or seeking visual cues during conversations.⁹ Persons who are deaf lack the ability to hear any sound and are totally reliant on visual cues to communicate and learn. Many people who are deaf know sign language or are proficient in lip-reading.

Assistive Tools

Until the last few years, people with a hearing loss or deafness did not face many barriers when using the Internet and the World Wide Web, as it was a very visual product. Their basic need was for the computer to provide visual alternatives to auditory information. However, with the advent of instruction and other videos on sites such as YouTube, as well as the incorporation of sound clips into websites, people with hearing loss are starting to lose the ability to fully use the Internet.¹⁰ Although visual displays are useful, such displays are not fully usable by people who are deaf unless there is text for each word spoken or auditory signal given. Using captioning and instant messaging on websites is necessary.

Deaf and Blind

Persons who are both deaf and blind—that is, who have no usable vision or hearing—employ their sense of touch to use computer technology.

Assistive Tools

Refreshable braille displays facilitate this process and make it possible for such people to literally have information at their fingertips.

Learning Disabilities

Learning disabilities are often not obvious by cursory observation, and there is no widely accepted definition of the disability. People who have this disability cannot always correctly interpret the meaning of visual symbols such as letters and words. Some people with learning disabilities can't read and understand text, while others may not be able to see numbers correctly or perform mathematical tasks.

Assistive Tools

Some persons with learning disabilities succeed by hearing words as they read them in text. For these people, there are software solutions that will help them read, learn, and enjoy the reading and learning process.

These solutions include those offered by Humanware and Kurzweil Systems, which read information aloud as words are highlighted (see chapter 2). If a word is not understood by the user, he or she may jump to a dictionary to have it defined.

Cognitive Impairments

Persons with cognitive disabilities generally need more time to process information, and they might be overwhelmed with the presentation of much new information. Cognitive disabilities may be congenital, may develop as a result of a physical trauma, or may be part of the aging process.

Assistive Tools

Persons with this disability might benefit from using technologies such as screen readers, modifying the screen display by eliminating ribbons or buttons, or employing different types of inputting hardware. People with cognitive disabilities can often learn to use computers, but it may take more time and more patience from both the person and from the librarian, public services staff member, or trainer to accomplish even “simple” tasks, such as learning how to use e-mail.

Autism Spectrum Disorders

Autism spectrum disorders (ASDs) are a group of development and behavioral disorders that affect a person's verbal and nonverbal communication, understanding of language, and socialization skills. Today, the Centers for Disease Control estimate that 1 out of 88 children, mostly males, have some form of autism.¹¹ With numbers this large, it is inevitable that people with these disorders will be visiting the library.

Assistive Tools

Researchers, teachers, and parents of children with autism spectrum disorders have found that computer programs, as they are predictable and therefore controllable, aid their children and young adults. They enable errors to be made safely, they offer a highly perfectible medium, and they give possibilities of nonverbal or verbal expression.¹² Computer software designed to teach basic social skills, and storyboard-writing software such as Mayer-Johnson's Boardmaker, let teachers print symbols and pictures that communicate daily life needs and help individuals learn and grow intellectually and socially.

Boardmaker Software

www.mayer-johnson.com/boardmaker-software

Generally speaking, people with autism are able to use a standard computer. Some, however, will need to use input devices such as joysticks, oversize keyboards, or touch screens. There are software programs such as My Town and My Community that teach social skills and help individuals learn how to act in social situations such as birthday parties: www.enablemart.com/Language-Activities-of-Daily-Living-Series and <http://helpingtogrow.istores.com/inc/sdetail/65/518>.

Mobility or Dexterity Issues

When speaking about persons with mobility or dexterity issues, we mean individuals who may need to use a wheelchair and want to slide it under a public work table, persons who may have severe rheumatoid arthritis and cannot flex their fingers, or persons who may not be able to sit or stand for long periods of time. They may not have the ability to move their fingers across a standard keyboard or move *any* part of their limbs.

Assistive Tools

Patrons with mobility disabilities may be helped by adding different types of input devices or “peripherals” to the library’s computer tool chest. Large keyboards, small keyboards, trackballs, scanning software—the number of possibilities is enormous, and there is something for every need. As long as a person has control of one part of his or her body, whether a finger, an eye, or a smile, he or she can use a computer.

Show Us the Money

Although the recent economic downturn has made foundation and corporate funding to libraries for accessibility purposes more difficult to find, there are still grant funds available—it is just going to take a little more creativity and maybe a lot more work to find all that is needed. You can check with your state library or archives agency for availability of Library Service Technology Act (LSTA) grants, as some specifically target funds for accessibility projects. The Foundation Center and the Trace Institute also provide information about potential funding sources.

Foundation Center
www.foundationcenter.org

Trace Institute
<http://trace.wisc.edu/archive/fintech/fintech.html>

Grassroots organizing and community resource building for accessibility purposes are also an option.

In the case of public and even academic libraries, big-box stores or local merchants may be willing to donate equipment, paper, or marketing help for the library’s accessibility endeavors. Local sororities and fraternities, community organizations, university assistive technology offices, or even patrons themselves may be willing to help organize fund-raisers with specific goals, for example, raising enough money to purchase screen-reading software or a specialized keyboard.

You Do Not Have to Do It Alone

In this era of doing more with less, library staff can find themselves overwhelmed by added tasks. Remember, though, there is help in the community. Form a consumer advisory board to help guide the library’s accessibility venture. The advisory board should include members who have disabilities as well as people who work in other agencies serving people with disabilities. The library should reach out to organizations such as the American Council of the Blind, National Federation of the Blind, Easter Seals, Hearing Loss Association of America, Learning Disabilities Association of America, Autism Society of America, United Cerebral Palsy, and the Disabled Veterans Foundation, to name a few.¹³ Also contact the library’s local rehabilitation centers and independent-living centers for support and advice. Remember, all states have a National Library Service agency, which provides access to digital (and analog) resources to qualified patrons.

American Council of the Blind
www.acb.org

National Federation of the Blind
<http://nfb.org>

Easter Seals
www.easterseals.com/site/PageServer

Hearing Loss Association of America
www.hearingloss.org

Learning Disabilities Association of America
www.ldanatl.org

Autism Society
www.autism-society.org

United Cerebral Palsy
www.ucp.org

Disabled Veterans National Foundation
www.dvnf.org

It is also important to reach out, work with, and listen to your users. Individuals who have disabilities can tell staff what works best for them, can help those new to technology learn how to access it, and can help market the library's endeavors. Partnerships with agencies and consumer-driven disability rights organizations can do the same. Likewise, library staff members who have already done similar projects are ready to share experiences—from demonstrating how to apply for grants to sharing curriculum to use in training.

Within ALA, there are discussion forums and useful resources in ASCLA, LITA, and others that can assist libraries getting started or help you troubleshoot specific problems. Although it may seem daunting, remember that there are others making a difference and changing lives—join them!

That's Not All, Folks

Your library can purchase technology and adhere to the W3C standards, but there is still a need to encourage people with disabilities to embrace computer technology. While working with the Consumer Expert Group (composed of people with disabilities) to formulate a workable and progressive plan for the country, Digital Britain found four issues that cause people with disabilities to not embrace the Internet:¹³

1. **Motivation.** Persons with disabilities are often not part of the workforce and are less likely to have had to use computers. Additionally, the cost of computer technology for those in a low-income bracket is prohibitive.
2. **Starting out and getting online.** Often, a lack of awareness by persons with disabilities that they can use computers is a limit. This factor is not helped by the fact that mainstream vendors of computer equipment know little about accessibility technology and often give the wrong advice. Once the person does acquire knowledge that accessible technology is available, the cost of it, coupled with training in the use of the products, makes the learning curve very steep.
3. **Making the Internet work for the user.** A disconcerting fact is that many websites and applications are becoming less accessible rather than more. It is disappointing for a user with a disability to learn how to use a computer and then reach sites that are inaccessible because of poor design.
4. **Fully realizing the benefits and the dangers of the Internet.** Some people who do become savvy Internet users may unintentionally restrict their own access by setting up their screen readers to take short cuts, missing valuable information.

These issues can all be addressed, and in part

overcome, with the help of dedicated librarians and information professionals. Libraries can inform the public, provide the technology, and train and educate the patron. As with most educational and intellectual pursuits, libraries can make a difference in the lives of people with disabilities and help them realize their fullest potential.

Recommended Resources

- ASCLA. Library Accessibility Tip Sheets. www.ala.org/ascla/asclaprotools/accessibilitytipsheets.
- ASCLA. "Understanding the Language," glossary of accessibility terms. www.ala.org/ascla/asclaprotools/thinkaccessible/language.

Notes

1. The National Library Service for the Blind and Physically Handicapped (NLS) is part of the Library of Congress and is mandated by law to provide books in alternate formats to US citizens who meet the requirements. For more information about the service see the NLS page on the Library of Congress website: www.loc.gov/nls. Recording for the Blind and Dyslexic is a nonprofit membership organization that provides materials such as textbooks and other instructional materials in digital format. See the organization's website at <http://swreg.rfbid.org> for additional information.
2. The ADA (Americans with Disabilities Act) is civil rights legislation extending the protection of law and guaranteeing equal access to employment, public services, and accommodations, transportation, and telecommunications to people with disabilities. For more information, visit the Americans with Disabilities Act website at www.ada.gov. Section 504, part of the Rehabilitation Act of 1973, forbids excluding individuals with disabilities from services or programs. To read more about the legislation, see Office of Civil Rights, US Department of Health and Human Services, "Your Rights under Section 504 of the Rehabilitation Act," June 2006, www.hhs.gov/ocr/civilrights/resources/factsheets/504.pdf. Section 508 of the Rehabilitation Act requires federal agencies to make their electronic and information technology accessible to people with disabilities. The US General Services Administration maintains an information-rich website at www.section508.gov/index.cfm?FuseAction=Content&ID=3.
3. American Library Association, "1 Mission, Priority Areas, Goals," *ALA Policy Manual: Section One: Organization and Operational Policies* (Chicago: ALA, 2008), 2; Library Bill of Rights, as quoted in American Library Association, "Access to Library Resources and Services Regardless of Sex, Gender Identity, Gender Expression, or Sexual Orientation: An Interpretation of the American Library Association Library Bill of Rights," June 30, 1993, amended July 2, 2008, www.ala.org/advocacy/intfreedom/librarybill/interpretations/

- accesslibrary.
4. American Library Association, "Services to Persons with Disabilities: An Interpretation of the Library Bill of Rights," January 28, 2009, www.ala.org/advocacy/intfreedom/librarybill/interpretations/servicespeoplesdisabilities.
 5. US Census Bureau, "20th Anniversary of the Americans with Disability Act: July 26" (news release), May 26, 2010, www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb10-ff13.html.
 6. Ibid.
 7. American Foundation for the Blind, "Special Report on Aging and Vision Loss," September 2008, updated January 2012, www.afb.org/Section.asp?SectionID=15&DocumentID=4423.
 8. A discussion of the definition of legal blindness may be found on the Articlesbase website: Jeffrey Scott, "Definition of Legal Blindness," November 6, 2009, www.articlesbase.com/vision-articles/definition-of-legal-blindness-1427410.html; text copied from the website of the online optical store Firmoo.com: Jay Furlong, "Definition of Legal Blindness," *Firmoo's Blog*, October 29, 2009, <http://blog.firmoo.com/definition-of-legal-blindness.html>.
 9. Several articles discussing the technical definition of hearing loss may be found at "Deafness," Answers Corporation website, accessed April 3, 2012, www.answers.com/topic/hearing-impairment-1.
 10. YouTube, aware of the need to make its site more accessible to visitors with hearing impairments, is beta testing the use of voice-recognition software that offers text interpretations of spoken words.
 11. "Autism Spectrum Disorders (ASDs)," Centers for Disease Control and Prevention, March 29, 2012, www.cdc.gov/ncbddd/autism/facts.html. This page discusses a variety of ASDs.
 12. Autism Speaks website, August 29, 2012, www.autismspeaks.org. This site has many resources concerning computers in relation to persons with autism.
 13. UK Consumer Expert Group, "Digital Britain: Barriers and Solutions to Internet Use by Persons with Disabilities," Gov Monitor website, October 25, 2009, www.thegovmonitor.com/world_news/britain/digital-britain-barriers-and-solutions-to-internet-use-by-persons-with-disabilities-12098.html.