

Assistive 10 Technology: THINGS TO KNOW



An accessible library media center (LMC) offers many benefits for the school community. Library media specialists can support their education colleagues in delivering inclusive learning opportunities to a wide range of students. Special needs students entering the LMC should have resources that facilitate access to the information available in print and electronic formats and other media.

sheets, color coding, large print materials, removable highlighter tape, and theme-focused resource handouts or reading summaries, can provide important assistance to students with reading and organizational difficulties.

Mid-tech devices, such as tape recorders, audio books, headphones, and visual timers, can assist students who need reading and task completion support.

Some accessibility supports are available in computer operating systems, browsers, and other types of software. These built-in supports may include magnification features, specialized keyboard configuration options, auditory and visual prompts, or screen reading. Accessibility supports vary from product to product. The trend in delivering enhanced technology usability support is driven by legislation, the aging workforce, and diversity factors.

Computer operating system accessibility information can be reviewed online at developer Web sites:

- **Microsoft®:**
www.microsoft.com/enable
- **Apple:**
www.apple.com/accessibility
- **Linux:**
<http://lars.atrc.utoronto.ca>
- **Sun® Solaris:**
www.sun.com/software/star/gnome/accessibility/quickview.xml

These are just a few examples of the kinds of assistive technology available to support people with learning challenges. There are now thousands of products available to provide greater learning independence.

Ten Thoughts on Library Media Center AT

1. AT enhances information accessibility for all LMC users.

Accessibility supports, while usually intended to assist people with special needs, provide options for all LMC visitors. For example, screen magnification software, such as Big Shot® Magnifier by Ai Squared, assists



“Library-enhancing assistive technology may be any low-tech, mid-tech, or high-tech product that allows the user to accomplish learning tasks and access the environment, resources, and information more independently.”

The Individuals with Disabilities Education Act (IDEA) definition of assistive technology states: *Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability.*

Assistive technology (AT) deployment in the LMC can benefit students and teachers by spotlighting low-, mid-, and high-tech options that support students who have learning difficulties.

Low-tech reading supports, such as magnification

High-tech, computer-based assistive technologies provide built-in and add-on support for students with diverse information access needs:

- Text-to-speech software assists students with reading difficulties and visual impairments.
- Concept-mapping software is a helpful resource for visual learning, planning, and collaboration.
- Computer input alternatives, such as computer switches, trackballs, and speech recognition technologies, help support users with mobility impairments or other disabilities.
- Scanners with optical character recognition and computers with text reading software allow students with reading and vision disabilities to convert print materials to electronic text (e-text) for translation to synthetic speech.



By Janet Hopkins

computer users with low vision to enlarge detail on the computer screen. However, instructors can use this software during a laptop-projector presentation to expand significant images or content for their entire audiences.

Micro cassette recorders allow students with writing difficulties to dictate essays. Journalism and performing arts students could also use recorders for interviewing and performance practice.

Concept-mapping software programs, such as Inspiration® and CmapTools, provide a flexible mind-mapping tool for students who are visual learners. However, all students and staff would find these programs useful for creating timelines, flow charts, character webs, and other diagrams.

— **2. Online resources are available to support educators who implement AT.**

Library media specialists and other educators have a rich collection of Internet resources on assistive technology and accessibility available at their fingertips. Some helpful sites include:

- **ABLEDATA:**
www.abledata.com
- **assistivetech.net:**
www.assistivetech.net
- **ATSTAR:**
<http://www.atstar.org>
- **TechDis Technology Database:**
www.techdis.ac.uk/index.php?p=3
- **ATA Assistive Technology Hub:**
<http://ataccess.org/hub/default.lasso>

— **3. AT implementation doesn't have to cost a lot.**

Believe it or not, some useful software programs are available as free downloads. For example, free text-to-speech software can be found on several sites:

- **NaturalReader®:**
www.naturalreaders.com/standard_version.htm
- **Sayz Me:**
<http://sayzme.sourceforge.net>
- **HELP Read™:**
<http://helpread.net>

CmapTools, the concept-mapping software developed at the Institute for Human and Machine Cognition, is available for free commercial or educational use. It can be downloaded at <http://cmap.ihmc.us/download>. CmapTools downloads are available for Microsoft® Windows, Mac OSX, Linux, and Solaris operating systems. Low-cost products are also available.

— **4. Additional funding may be available to support AT deployment.**

It's likely that your LMC budget is tight enough without AT factored into the purchasing plan. Lack of funding could be a barrier to AT deployment in the LMC. But, local funding may be available. Some parent advisory committees have access to funds through gaming or lottery resources or volunteer fundraising. Be sure to make your library media center AT needs known to funding committees at your school.

External support from national or international grant-making organizations and agencies that serve nonprofit organizations could be available. Research the possibilities through the Fundsnet Services Online Web site www.fundsnet.com.

Technology and literacy-targeted government grants may be available through the United States Department of Education. Current grant information is available online at www.ed.gov/fund/grant/apply/grantapps/index.html.

— **5. AT-user orientation and training is a must.**

User-friendly assistive technologies are the best choices for successful library media center AT deployment and long-term use. Select intuitive products that won't require much training or retraining of staff and students. For example, a video magnifier or closed-circuit TV (CCTV) magnifier that supports your students with low vision would provide a good demonstration of how AT creates access to the LMC's print resources for people with low vision.

Staff will have to identify candidates for library media center AT use. These potential AT users will need to be

educated about the products that are available to them and how they can be used in the LMC. Staff should be prepared to demonstrate the products to users and help users independently access the assistive technology.

LMC staff can set up tutorial sessions on newly acquired AT by inviting staff and students with an interest in using the technology to product demonstrations in the LMC.

— **6. Library media center AT deployment can be accomplished in logical steps.**

Consider the needs of the current students using the LMC. Give priority to the types of AT that are going to benefit the greatest number of students and will be used most frequently.

Students with learning disabilities who benefit from reading support are a significant group to consider. Students with poor decoding skills and low reading rates will struggle with print resources. These students will gravitate toward alternative format books available on CD or audiotape.

The acquisition of audio textbooks can greatly assist students with reading challenges. School department coordinators should be encouraged to select textbooks available in alternative formats. Junior and senior high school social studies textbooks and English

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Photo courtesy of Califone®

literature or textbooks are written at reading levels that are difficult for some students. Reading difficulties present significant barriers to students as they progress through school. When students have auditory resources to support their course reading demands, they have curriculum access options that can save them time, frustration, and embarrassment and reduce course pressures.

E-books accessible with screen-reading software will also support students with reading challenges. There are screen-reader products that can convert electronic text on the Internet, or from scanned books and documents, to synthesized speech. This assistive technology helps students with reading disabilities, as well as students with visual impairments.

There are a variety of literacy-support software programs that typically correspond in price with their level of feature sophistication. Some examples of expensive and less costly programs are listed below:

- **WYNN™ Wizard and WYNN Reader:**
www.freedomscientific.com/LSG/products/wynn.asp
- **Kurzweil 3000:**
<http://kurzweiledu.com>
- **TextHELP Systems Inc.:**
www.texthelp.com
- **ReadPlease®:**
<http://readplease.com>
- **TextAloud:**
<http://nextup.com>

7. Library media center AT deployment can be accomplished through collaboration.

Enlist the support of special education teachers in suggesting one or two initial AT options for the LMC. Invite them to collaborate on student and staff AT orientation, planning, and support services.

Students who have learned to use assistive technology can help coach new AT users in the library media center. The LMC could be an ideal setting to establish a weekly or monthly AT club meeting for students and staff interested

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in enabling technology. These meetings could be opened to members of the community who would like to contribute their knowledge and time to the library media center's AT initiative.

8. Library media center AT user data collection will be useful for future planning.

Consider logging the daily use of the assistive technology you've introduced in the LMC. A checklist designated for each type of AT can help staff monitor peak-use times, duration of use, and frequency of use. The data will provide useful information that can be shared with other library media specialists, administrators, and educators in the district.

If LMC assistive technology is not being used as frequently as expected, investigate the reasons students are not using it. It may be that the software is installed on a computer that is not connected to the Web and would be more useful on an Internet-connected computer. The assistive technology may be located in a part of the LMC that is too public for students who want a private setting for AT-supported library media center work.

Abandoned assistive technology is a lost opportunity for students who need support. Remember that AT is just another learning tool. Students and staff need to work at successfully matching users and applying AT for appropriate task completion.

9. Portable library media center AT can benefit students throughout the school.

Assistive technology that can travel with students and be used throughout the school will further support inclusive education practices. Sign-out procedures, usage guidelines, and student and staff responsibilities will need to be established.

Portable keyboards, such as the AlphaSmart®, Dana, Neo, and Laser PC6, as well as portable text-scanning reading

pens, are possible options for library-to-classroom AT support.

- **AlphaSmart, Inc.:**
<http://www.alphasmart.com>
- **Perfect Solutions:**
<http://www.perfectsolutions.com>
- **WizCom Technologies Ltd.:**
www.wizcomtech.com

10. Effective library media center AT support is an ongoing commitment.

Library media specialists provide assistance to the school community by connecting the students and staff with the resources available in the LMC. It takes time to investigate and evaluate the assistive technologies available for educational use. Assistive technology decision making requires research. Whether research involves seeking advice or acquiring or downloading trial products for evaluation, the selection process will vary, depending on the information gathered and the person doing the planning. Don't hesitate to get the AT deployment ball rolling in your LMC. However, be mindful of your computer-system compatibility and interoperability concerns. Be sure to check the system requirements for any hardware or software you plan to use.

Assistive technology is one more set of tools that can help library media specialists to welcome and support students who face learning barriers with traditional curriculum and LMC resources. AT can provide accessibility to print and electronic text resources for LMC users with disabilities.

Assistive technology products may not be necessary for all of the students in your LMC, but they can provide valuable literacy support solutions and information access for some of your students or staff with learning differences. ■

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