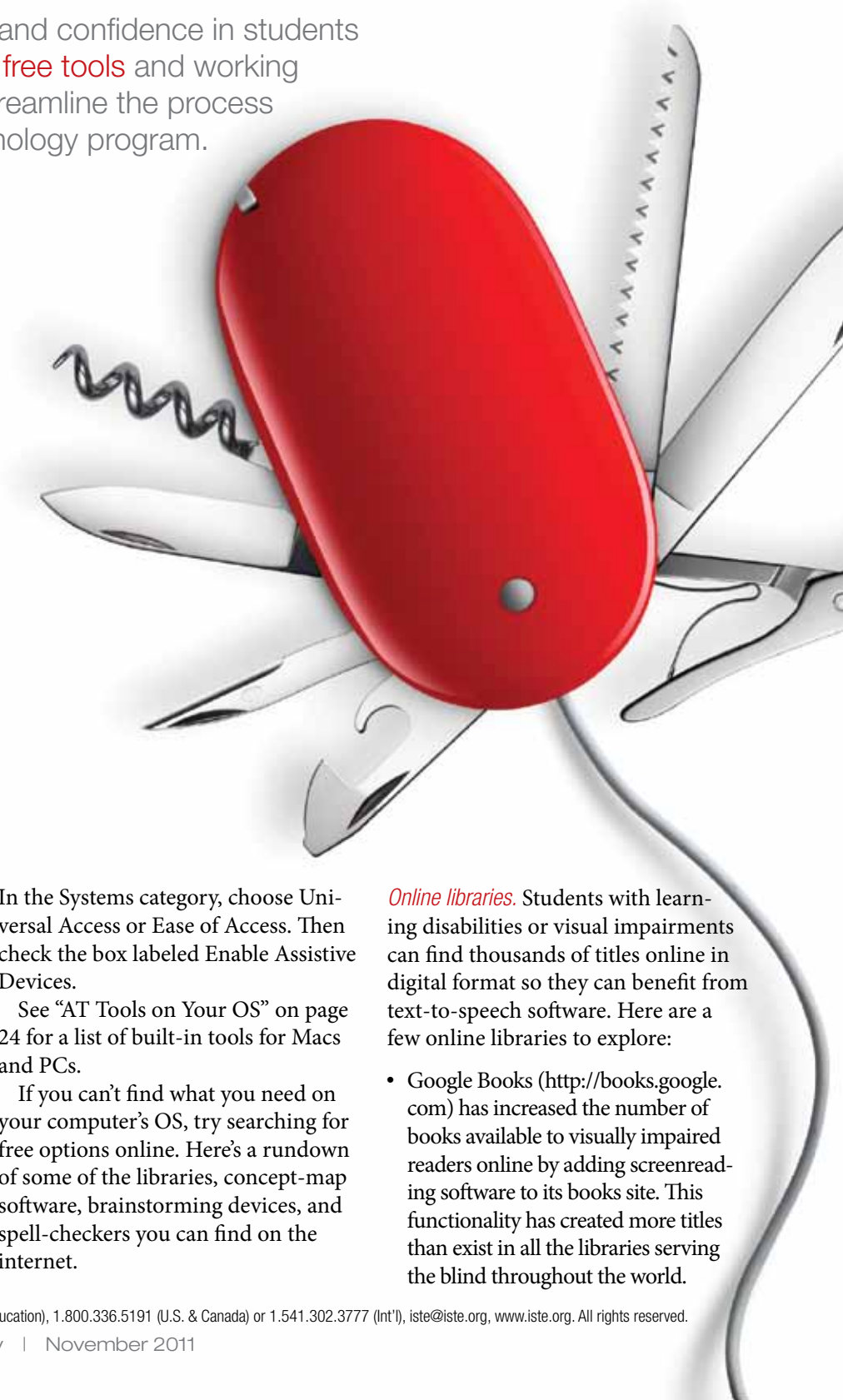
By Kelly Ahrens

Build an Assistive Techn

You can instill independence and confidence in students with special needs by finding free tools and working with your IT department to streamline the process for creating an assistive technology program.



Assistive technology (AT) by its very nature consists of a variety of personal and customized tools for multiple learning styles and physical challenges. As director of technology for the East Providence School District in Rhode Island, USA, I encourage students, parents, and educators to advocate for AT services. But I also want them to go a step further and build their own AT toolkits that can instill independence and confidence in students with special needs.

First, you can unearth a lot of free and low-cost tools in two very accessible places: on your computer's operating system and online. Once you find the tools you want to use—both free and paid—you need to know how to work with your school IT department to develop a systemwide AT program that successfully supports students.

Find Free Tools

You may be surprised to discover the many AT tools built into Windows Vista, Windows 7, and Apple's Snow Leopard operating systems. Microsoft and Apple make it easy for users with special needs to see, hear, and use their computers. Both have increased the number and improved the performance of AT tools in recent years.

On a PC, go to your control panel and click on Accessibility Options to find the list of tools.

On a Mac, pull down the Apple menu and choose System Preferences. In the Systems category, choose Universal Access or Ease of Access. Then check the box labeled Enable Assistive Devices.

See "AT Tools on Your OS" on page 24 for a list of built-in tools for Macs and PCs.

If you can't find what you need on your computer's OS, try searching for free options online. Here's a rundown of some of the libraries, concept-map software, brainstorming devices, and spell-checkers you can find on the internet.

Online libraries. Students with learning disabilities or visual impairments can find thousands of titles online in digital format so they can benefit from text-to-speech software. Here are a few online libraries to explore:

- Google Books (http://books.google.com) has increased the number of books available to visually impaired readers online by adding screenreading software to its books site. This functionality has created more titles than exist in all the libraries serving the blind throughout the world.

ology Toolkit

- Bookshare (www.bookshare.org) is a website that offers free digital books to those who provide proof of a visual disability.
- Project Gutenberg (www.gutenberg.org) offers more than 33,000 free e-books for computer or e-reader download.

Online concept maps. These software programs help students organize their thoughts and brainstorm ideas:

- Microsoft Office 2007 Smart Art plug-in (http://tinyurl.com/446uv2c) provides a visual representation of information. It's quick and easy to use, and students can choose from many different layouts to effectively communicate ideas.
- Bubbl (https://bubbl.us) is brainstorming software that is simple to use. Students can create, print, and share their own mind maps.

Online spell-checkers. You can find free tools, such as those below, to help your students get their spelling right—even in web forms:

- Google Chrome (http://Google.com/chrome) will check the spelling of text within web forms.
- ieSpell (www.iespell.com) is a free Internet Explorer browser extension that spell-checks web forms and text fields.

Many other websites offer AT tools online.

Work with Your IT Department

Free tools are great, but you may discover that they do not have the features offered by some popular AT packages, such as Co:Writer, which is word prediction software, or Boardmaker, a visual communication program.

Once you choose, you'll need to consult with your IT department. Most IT departments do not allow teachers or students to install software on school computers. The IT staff must add software themselves. For districts with large student bodies, diverse student needs, multiple computing locations, and various operating systems, the task of installing one AT program for one student can be very difficult to do quickly.

That's why software and hardware installation requests for individual students can get delayed, creating a gap in service to students in need of tailored AT packages.

By understanding the IT terminology, you can work with your IT department to ensure that your students' needs are being met and help create a successful AT environment for the whole school or district.

Local administrative rights. To install software on computers, you need to log on as an administrator of the computer. An administrator is a user who has full rights to the computer or on a number of computers across the network. In most districts, IT departments do not extend administrative rights to students and teachers because they want to prevent viruses, hacking, and other activities that can disable network environments. But there are other ways your IT staff can distribute software for a systemic integration of AT tools on every computer.

District or school site licensing. By requesting school- or districtwide site licensing for AT software, educators and students will benefit in two very important ways. First, IT departments are free to install the AT software on every computer in the building or district, encouraging wide distribution of AT software packages. Second, if all educators in a school or district are using the same AT software, professional development will be streamlined and efficient. Installing Boardmaker or a concept-mapping tool, such as Inspiration, saves the district from training teachers on several similar software packages.

Disk imaging. IT departments roll out, update, and service computers using this important tool for computer management. With disk imaging, the IT staff can quickly install every piece of software students require without taking the time to install each software package one by one. If you have students with specialized computers, ask your IT department to image the computer to save time when the computer is serviced or when your student moves to another classroom, grade level, or school.

Microsoft Installer (MSI) files. Another way to help get AT programs onto computers is to buy software that can be packaged in the MSI format. This allows you to send the software to specific computers or groups of computers over the network. The next time your student boots up his computer, the software automatically installs. Many AT software companies are now offering the MSI installation format.

You can help your school or district create and deliver a successful AT program by becoming familiar with the built-in AT tools within your computers' operating systems, finding free software online, and working with your IT department to get AT

AT Tools on Your OS

Accessibility Options	How It Helps
Magnification	This tool magnifies the screen or a portion of the screen to make text, images, and objects easier to see. Students with visual impairments can adjust screen size to read books or type papers.
On-Screen Keyboard	This tool displays a visual keyboard that students can use instead of a physical keyboard. A physical keyboard can be difficult for students to navigate easily because of hand or finger challenges. Installing the on-screen keyboard allows them to use the mouse to type.
Narrator or Voice Over	This feature reads on-screen text aloud. This feature is great for students with visual and learning challenges. Students select information on the computer screen and click Alt-N, and the computer reads what is on the screen. This is useful for computer navigation, websites, and digital textbooks.
Speech Recognition	This tool allows students to interact with their computers using only their voices. Students can dictate notes or papers to Microsoft Word, and they can even correct what was typed by saying, "Correct that." Available in seven languages, including Spanish and French.
Change Text Size	This feature displays text and objects larger without sacrificing graphics quality. It allows students to increase font size for icons on the desktop, making them easier to read.
Personalization	Students can install gadgets, such as language translators, talking clocks, to-do lists, and quick-launch programs.
Keyboard Shortcuts	Students can simplify commands for functions, such as saving documents. Find a list for PC at http://support.microsoft.com/kb/126449 or for Mac at http://support.apple.com/kb/HT1343.
Sticky Keys	This feature allows students to press and release a modifier key, such as Shift, Ctrl, Alt, or the Windows key, and have it remain active until any other key is pressed.
Mouse Keys	This tool allows students who have trouble using a mouse to control the cursor using keys.
Filter Keys	These tell the keyboard to ignore brief or repeated keystrokes. This makes typing easier for students who tremble or hold the keys down too long.
Visual and Sound Notifications	These notify students with a pop-up message or sound when a computer error or other warning occurs.
Captions	Provides captions for important computer information.

toolkits installed and updated quickly. By joining your local special education, budget, or technology advisory committee, you can advocate for consistent and systemic support for students with AT needs.

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