

Assistive Technology: The Key to Computer Use When Vision is Impaired

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Cataracts, glaucoma, diabetic retinopathy, and macular degeneration are eye conditions often associated with vision loss and occur more frequently among older adults. However, vision impairment or even blindness should not (by itself) prevent someone from using a computer. Choosing the right assistive technology devices will depend on the type and extent of the vision impairment. Let's take a look at several categories of computer access products that are designed to compensate for vision loss.

Screen magnification products enlarge text and pictures to a standard range of sizes more easily viewed by a person with limited vision. Although free standing magnifiers that attach to the computer monitor can be purchased, the most versatile technologies are software programs with features that allow for magnification of the full screen, parts of the screen or provide a magnifying glass view of the area around the cursor or pointer. These programs typically allow for changing the background and text colors in order to provide better contrast to maximize existing vision. Many of the commercially available screen magnification programs also offer speech output so the user can hear - as well as see - the text, menu items and message boxes.

Color contrast and text size settings can also be controlled through operating system options that are standard on today's Windows and Macintosh computers. To try these features, locate the wheelchair icon on the control panel and then click on the Display tab.

A different approach to computer access is necessary when there is an absence of functional vision. These technologies rely on hearing and touch to compensate for the loss of sight. *Screen reader* programs convert text into speech so that the screen contents are spoken to the user. Screen reader programs designed for persons who are blind also provide navigational features so that the user can identify the location of the cursor on the screen. Proficient Braille users can utilize a refreshable Braille Display in conjunction with the screen reader program. These devices connect to the computer by a serial cable and produce a dynamic Braille display that changes with each new line of text.

Another type of assistive technology product beneficial to persons with vision loss is Optical Character Recognition (OCR) Software. OCR allows external documents such as newspaper articles, recipes, bills etc, to be scanned into the computer and the text electronically stored. It can then be edited and used by screen magnification and/or screen reader programs. Let's take the recipe as an example. Your neighbor tells you about an enticing recipe for brownies that she cut out of a magazine. OCR software allows you to scan it into your computer; the screen magnification program then enlarges to a size you can comfortably read and even edit. If you were blind and had a Braille embosser printer, you could print out a Brailled copy to use while in the kitchen.

There are a number of screen magnification, screen reader and OCR products available to choose from. However, the features vary and may or may not be compatible with the individual's specific needs. It is important to keep in mind that assistive technology device selection is not a "one size fits all" process and follow-up training is often essential to successful device use. Professional assistance is recommended to get the best device in terms of usefulness, cost effectiveness and training. Before buying a device, persons with limited vision should consult with an eye care professional who specializes in low vision in order to accurately determine magnification levels and other options that could optimize existing vision.

There are a several non-profit resource centers in Arizona with expertise in assistive technology for vision loss:

Arizona Center for the Blind and Visually Impaired, Inc., 3100 E. Roosevelt St., Phoenix, AZ 85008, 602.273.7411; HYPERLINK "<http://www.acbvi.org/index.html>" <http://www.acbvi.org/index.html> (Adults are served as well as children)

Foundation for Blind Children, 1235 E Harmont Dr., Phoenix, AZ 85020, 602.331.1470

HYPERLINK "<http://www.the-fbc.org/>" <http://www.the-fbc.org/>

Sensory Services, Institute for Human Development at Northern Arizona University, Bldg 27, Riordan Ranch Rd, Flagstaff AZ, 928.523.1504, HYPERLINK "<http://www.nau.edu/ihd/ris.shtml>" <http://www.nau.edu/ihd/ris.shtml>

Southern Arizona Association for the Visually Impaired (SAAVI), 3767 E Grant Rd., Tucson, AZ 85716, 520.795-1331, HYPERLINK "<http://www.saavi.us/>" <http://www.saavi.us/>

To learn more about this topic via the Internet, log on to the following websites:

University of Toronto Adaptive Technology Resource Center: HYPERLINK "<http://www.utoronto.ca/atrc/reference/tech/techgloss.html>" <http://www.utoronto.ca/atrc/reference/tech/techgloss.html>

Screen Magnifiers Home Page: HYPERLINK "<http://www.magnifiers.org/>" <http://www.magnifiers.org/>

Go to HYPERLINK "<http://www.google.com>" www.google.com and type in Assistive Technology and Vision Loss

This is the sixth in a series of articles designed to educate people about assistive technology and its benefits to older adults. For more information, contact Randy Collins, Training and Outreach Coordinator for the Arizona Technology Access Program (AzTAP). Randy can be reached at 602-728-9533, 602-728-9536 (TTY) or toll free at 800-477-9921. The AzTAP website is HYPERLINK "<http://www.nau.edu/ihd/aztap>" www.nau.edu/ihd/aztap.

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DES, Aging and Adult Administration: Aging, if it's not your issue...it will be.