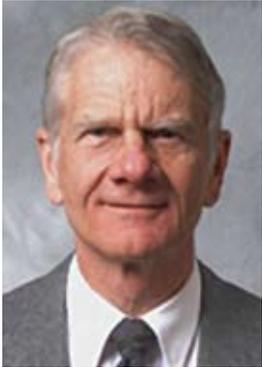




Ask the Expert

Assistive Technology



L. Eugene Arnold

STUDENTS AND ADULTS DEALING WITH the ways attention-deficit/hyperactivity disorder (AD/HD) affects their daily lives are employing various tools, electronic devices, and new computer programs to assist them. Many of these tools are the familiar organizer notebooks used by students and adults alike for planning and organizing their work and events. Others are the latest personal digital assistants (PDAs) and computer programs designed for writing skills and watches that chime with reminders. Organizing systems for information and home life are popular for keeping individuals on-track to accomplish daily tasks.

Two experts on AD/HD—Ann Abramowitz, Ph.D., and L. Eugene Arnold, M.D., M.Ed.—recently addressed questions about assistive technologies for AD/HD from CHADD communications manager Karen Sampson, M.A.

Abramowitz, chair of CHADD's professional advisory board, is a professor of psychology at Emory University and supervises residents in the division of child and adolescent psychiatry at the university's medical school. She was a co-investigator on the National Institute of Mental Health's *Multimodal Treatment Study of*

Children with Attention Deficit Hyperactivity Disorder and currently consults with the Centers for Disease Control and Prevention on AD/HD.

Arnold, a member of CHADD's professional advisory board and the editorial advisory board of *Attention* magazine, is professor emeritus of psychiatry at Ohio State University. He is a nationally-recognized child psychiatrist with more than 30 years of academic and clinical experience. Arnold was also a researcher on the National Institute of Mental Health's *Multimodal Treatment Study*.

While most people are familiar with assistive technologies for individuals with physical disabilities, which assistive technology tools might benefit individuals with AD/HD?

ARNOLD: Some common assistive technologies for individuals with AD/HD are electronic or pocket organizers, timers, alarms, earplugs, electronic memory banks, and tools for self-reinforcement and habit formation.

ABRAMOWITZ: Those do certainly play a role in the treatment of a lot of folks with AD/HD. Also useful are programs for writing—actually a computer program used for organizing writing.



Ann Abramowitz

Mini-Guide to Assistive Technology

Compiled by Susan Buningh

AT devices run the gamut from low-tech, such as adapted pencil grips, to high-tech, such as specialized computers. Here are some examples of AT to consider, according to the tasks each assists.

► **ORGANIZATION:** personal digital assistant (PDA); tape recorder; free-form database software

► **MEMORY:** PDA, tape recorder; free-form database software



► **READING:** Screen enlargement program; speech synthesizer/screen reader; optical character recognition (OCR) unit, software, or device; alternative format books (audio-books, cassettes, CDs, MP3 downloads); variable speed control (VSC) tape recorder; automatic page turner and book holder



► **LISTENING/TAKING NOTES:** portable notetaker; tape recorder; variable speed control (VSC) tape recorders; assistive listening device; portable FM listening system

► **WRITING:** adapted pencil grips; portable word processor; talking word processors



(TWP); spell checker; speech synthesizer/screen reader; voice recognition systems; speech recognition software programs; graphic organizers and outlining programs; alternative keyboard; word prediction software programs; pointing and typing aids; abbreviation expander software; proofreading software program; talking spell checker; electronic dictionaries

► **MATH:** calculator, talking calculator, personal data manager, electronic math worksheets



How does using an assistive technology tool help a student?

ARNOLD: It depends on the type of device used. If the device works for the student, it can reduce frustration levels.

ABRAMOWITZ: I do encourage students to use whatever organizer system works best. I have found for my kids—I see kids and teenagers—that often paper agendas work just fine. They're very accessible for the parents and teachers who need to see them. Not many of these computer technologies are accessible to students. And they have no magical benefit over paper organizers.

Does it bring the student up to speed with her classmates?

ARNOLD: Hopefully. Again, it depends on the device and the student.

ABRAMOWITZ: It's hard to say it brings them on grade level. There are components that are for performance and components that are for achievement. The technologies for AD/HD are more for performance, so you can complete the work, bring it in on time. More to meet performance, probably, than to meet achievement goals.

Some people worry that assistive technology tools would give a student an unfair advantage in the classroom setting, when compared with other students.

ABRAMOWITZ: If it meets the disabilities they have, then it's not an unfair advantage. No kind of organizer is going to give anybody an unfair advantage.

How would assistive technology help in the workplace?

ARNOLD: Planners and timers especially help to keep adults (and young people) on schedule.

ABRAMOWITZ: Keeping things in one place. Keeping things organized. If people are prone to lose things then obviously it would help.

How are these technologies developed?

ARNOLD: Some are commercial devices. Others are techniques developed by university investigators. How they are used by a person dealing with AD/HD depends on the choice of technology employed.

Are there any assistive technologies in current use that affect AD/HD itself?

ARNOLD: If you are talking about treatment options, there are some that claim to, such as the interactive metronome and neuro-feedback. [To read the What We Know paper on complementary and alternative treatments compiled by the National Resource Center on AD/HD, visit www.help4adhd.org/treatment/complementary/WWK6.]

Can the technologies you just mentioned reduce or eliminate AD/HD?

ARNOLD: They make that claim. How they actually work depends on the technology.

ABRAMOWITZ: The fundamental AD/HD problem wouldn't be reduced or eliminated, but the technology might reduce the manifestation of the symptoms.

Many assistive technology tools are appropriate for addressing various related disorders. Are any useful for individuals with AD/HD who don't have these co-occurring conditions?

ABRAMOWITZ: Yes, they would benefit from the organizers. Each individual should probably figure out what system works best for him or her. Everybody's going to be different. ■

Assistive technology devices can be provided to students found to need them through individualized Education Plans (IEPs) under the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act of 1973 (Section 504), and the Americans with Disabilities Act (ADA).

Helpful WEB Sites

The following resources are a good place to start your research.

- ▶ Schwab Learning, www.schwablearning.org
- ▶ Alliance for Technology Access (ATA), www.ataccess.org
- ▶ Family Center on Technology and Disability (FCTD), www.fctd.info
- ▶ Parent Advocacy Coalition for Educational Rights (PACER) Center, www.pacer.org
- ▶ Academy for Educational Development (AED), www.aed.org
- ▶ InfoUse, www.infouse.com
- ▶ Center for Assistive Technology & Environmental Access (CATEA), www.catea.org