



The AT Messenger

bringing technology to you

Delaware Assistive Technology Initiative (DATI) • Volume 10, No. 3 • Summer/Fall 2002

Progress on Alternative Financing for AT Purchase

DATI and others have been working hard during the last few months to bring an alternative financing, or low-interest loan, program to Delaware for the purchase of assistive technology. This exciting opportunity is possible because the United States Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR) is expanding a low-interest AT loan program already in existence in a number of other states. If our application in this competitive process is successful, NIDRR will match every \$1 raised in Delaware from public or private sources with \$3 in federal funds.

The other states that have low-interest loan programs in place typically feature loan guarantee and/or interest rate buy-down approaches. These programs are administered through established financial institutions and they have helped many people pay for home

and vehicle modifications, computers, hearing aids and other types of AT that are rarely funded by third party sources such as public and private insurance and state agencies.

On May 2, 2002, DATI sponsored a day-long workshop at Del Tech's Wilmington campus for persons interested in this initiative. A diverse audience of more than 50 attendees, including persons with disabilities, advocates, health care providers, governmental officials, and representatives of financial institutions, heard an excellent presentation by Dr. Joey Wallace, a consultant from Virginia with considerable expertise in creating and administering alternative financing programs. Both Beth Mineo Mollica, DATI's Director, and the Director of Maryland's low-interest loan program also spoke about the need for and the



Ann Phillips and Aaron Deede provided testimony about AT access barriers.

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benefits of such programs. The questions and other comments from the audience indicated a very strong interest in creating an alternative financing program in Delaware.

Later in May and throughout June, Dr. Mineo Mollica and Tom McDonough, DATI's Funding and Policy Specialist, worked with Senator Harris B. McDowell III and other legislators in the Delaware General Assembly toward the passage of legislation that would increase the available funding options for AT. Senator McDowell introduced Senate Bill 377, "The Delaware Personal Mobility and Vehicular Transportation Access Act," which proposed to create a Delaware Assistive Technology Trust for the administration of grants and loans to pay for personal mobility devices (such as walkers, wheelchairs, and scooters), vehicular assistive technology (such as hand controls, vehicle ramps, and passenger restraint systems), and other assistive technology.

After Dr. Mollica and Mr. McDonough testified about the need for alternative financing for such technology on June 20th, the Senate heard moving testimony from Ann Phillips and her son, Aaron Deede, a young man who became an AT user following a motor vehicle accident approximately two years ago. The Senate eventually passed an amended version of Senate Bill 377, yet the bill failed to pass in the House of Representatives in the waning hours of the last legislative session.

Despite this setback, the General Assembly enabled us to keep this initiative moving

forward with a provision in the Bond Bill establishing a Delaware Assistive Technology Policy Committee. This Committee, which includes Dr. Mineo Mollica, elected and appointed officials, and others, is charged with studying this issue, holding hearings, and presenting its findings and recommendations to the General Assembly by mid-January 2003. Up to \$100,000 is available to support the Committee's work.

On another front, DATI has worked diligently to secure financial and technical assistance from a number of local financial institutions and foundations so that Delaware can present a well-planned and competitive application to NIDRR. We are confident that these efforts will result in a significant State "match" so that, combined with the three federal dollars for every state dollar, we can maximize the benefits for Delawareans with disabilities. We expect to submit Delaware's application to NIDRR in Spring 2003.

Between now and the spring, there is much to be done. We intend to distribute an AT loan survey to better gauge the level of interest and need for a low-interest loan program. A work group will research the existing low-interest A.T loan models in other states and recommend a model that best meets Delaware's needs. We intend to convene a meeting to solicit comments from interested parties on the proposed model and, if warranted, we will renew our efforts in the Delaware General Assembly. We welcome your support. ■

Meet DATI's Newest AT Specialist

Hello, everyone! I am Eden Melmed and I joined DATI in the Fall of 2001 as the Assistive Technology Specialist serving the New Castle County Assistive Technology Resource Center. In this role, I provide support to individuals with disabilities, their families and other members of the community by helping to identify appropriate assistive technology and supplying information and training on the technology. It is tremendously rewarding work.

Prior to joining DATI, I had been working at a pharmaceutical company as a biomedical engineer. In this position, I worked with scientists to determine their technological needs, including both hardware



and software, and implemented the appropriate solutions. This experience helped expose me to the incredible world of technology that exists today, and reinforced my belief that almost anything is possible. While I enjoyed that experience, I quickly concluded that my desire is to help people and that was why I sought out DATI and abandoned the corporate world, where profits seem to be the only important objective.

After graduating from Carnegie Mellon University with a degree in electrical engineering, I served as a Peace Corps

Volunteer and was assigned to teach in The Gambia, West Africa. After my two years there I came back to the U.S. and pursued my Masters degree in biomedical engineering from Drexel University in Philadelphia.

Everyone at DATI is committed to assisting individuals in finding technology that allows them to be more independent and productive in their lives. If there is ever a time when you, a family member or someone you know is in need of some assistance, please don't hesitate to call; we are always ready to help. ■

Building a Home? Here are a Few Universal Design Tips to Help Make it More Livable

By Dan Fendler

AT Specialist - Kent and Sussex ATRCs

The housing market in Delaware is booming, especially in Kent and Sussex counties. Housing starts are way up, and many people are adding on to the homes they own. After a visit to an Atlantic City home designed by the Center for Universal Design at North Carolina State University, I walked away with some great ideas that you may want to incorporate into your new home or addition



Making an Entrance

Start at your home's front door. Do you have to climb steps to get in? If the answer is yes, you have a barrier that many folks, including those

using wheelchairs, walkers, or canes may have trouble negotiating. We receive several calls a month from people looking to add an accessible ramp to their home due to a change in life circumstances. If you give more thought to the design of your home, you may not need to retrofit a potentially unsightly addition.

Consider alternatives to steps before building. If done during design, ramps can add beauty to your new home. In many cases, grading the fill leading to your front door in a gently sloping manner will provide the basis for an accessible entrance. To ensure maximum accessibility, include gentle, rounded turns as opposed to sharp, angular ones. Gentle turns are easier to navigate for a person in a wheelchair.

Depending on your budget, there are many different types of material available to surface the ramp. Keep in mind that the smoother the surface, the easier the access.

Low Cost Electrical Adaptations

One very simple idea that was incorporated in the Atlantic City house was the position of the electric outlets. All outlets in the home were installed about 8 inches higher than typical outlets (Figure 2). Installing the outlets higher makes them accessible to the wheelchair user. They are also more accessible to anyone with limited flexibility that sometimes accompanies aging.



Figure 2

Consider using rocker switches in place of conventional toggle switches. They are easier to use for a number of individuals. Consider motion activated light switches. Their use could eliminate the need to physically flip a switch when entering a room. Motion activated switches are available for under \$10. If you have kids, think of the money and aggravation you could potentially save by installing these!

The Water Closet

Bathrooms are an accessibility challenge. One of the biggest challenges arises from the size of the room. Small rooms are hard to maneuver in, especially for a person in a wheelchair. If your budget permits, consider making the bathroom large enough to accommodate a wheelchair.

A few low cost suggestions: place the controls to the tub or shower outside the tub or shower enclosure (see Figure 4). You can control the water flow and temperature without leaning over the tub or shower. Have an anti-scald valve installed to prevent burns related to improper temperature selection when turning on faucets (whole house valves are available for under \$100 – most have adjustable settings).



Figure 3

Before the drywall is installed, consider having horizontal supports installed between wall support studs (at handrail height). These can be used to support bathroom handrails.

When selecting sinks, consider sinks that can be installed without a cabinet underneath. This will accommodate someone using a wheelchair (remember to insulate any exposed pipes that could burn tender legs). Or consider a designer sink that has structural handles built in (see Figure 4).



Figure 4

Cabinets can also be used to create a space under the sink to accommodate wheelchairs, as shown in Figure 5 (still under construction).



Figure 5

There are many types of tubs and showers available that will make a bath more beautiful and more accessible. If you are thinking about including a walk-in shower in your design, try to eliminate the threshold to make bathing easier for those in wheelchairs or with limited mobility. Include an adjustable showerhead in the design to accommodate different height requirements (see Figure 6).



Figure 6

Elsewhere in the Home

When picking out windows, consider those that have the cranking and locking mechanisms on the lowest part of the sill (Figure 7). Double and single hung windows require two hands and more strength to open.



Figure 7

When selecting doors, opt for the widest doors possible. Pocket doors may be easier to operate by those in wheelchairs.

If your new home has stairs, make sure that they are well lit to help people with visual impairment. You can also make the stairs more visible by using different colors to make the treads stand out (Figure 8 illustrates stairs using light wood for most of the tread and dark wood along the edge of the tread)



Figure 8

If your plans include a fireplace, consider installing it a few inches off the floor. By doing so, it will be easier to reach without bending (see Figure 9). If the fireplace is being installed in a bedroom, installing it off the floor also makes for better viewing while in bed!



Figure 9

Kitchens and Laundry Rooms

Adapting a kitchen can be very costly. There are many different appliance options available to make a kitchen more accessible. Under-counter refrigerators and freezers that have either door or drawer access are available. Wall ovens and microwave ovens can be installed at more accessible heights (lower for those using wheelchairs). Adjustable height countertops and range-tops are also available.

Front-loading washers and dryers can make wash day more manageable. See Figure 10 and note that the washer shown is mounted on a platform that makes loading and unloading a

breeze. They use a fraction of the water, are quieter, and get your clothes cleaner to boot! There are even single machine models available



Figure 10

that will wash and dry a load of clothes. No more unloading the washer into the dryer – put the clothes in one machine, turn it on, and the next time you handle the clothes they are clean and dry.

There are many ideas that you can incorporate into your new home. Learn more about Universal Design at North Carolina State University's Universal Design website: www.design.ncsu.edu/cud.

If you are interested in touring the Universal Design Demonstration home in Atlantic City, please contact Shirley Gash, RNS Docent Chair at 609-822-8070 for an appointment. It is well worth the trip.

Thanks to Shirley, Marilyn (our tour guide) and the entire dedicated team for graciously sharing their wonderful project with us. ■

Federal Accessibility Requirements for New Multifamily Construction

by Laura J. Waterland, Senior Staff Attorney, Disabilities Law Program

In enacting the Fair Housing Amendments Act of 1988 ("FHAA"), Congress extended the scope of anti-discrimination protection in housing transactions to people with disabilities.¹ Among the many aspects of this law, Section 3604(f)(3)(C) of the FHAA imposes certain design and construction requirements on newly constructed multifamily dwellings, which are described briefly herein.² Significantly, the FHAA does not require builders of new construction³ to provide fully accessible dwellings,⁴ nor does it require new

construction to comply with the United States Department of Housing and Urban Development's ("HUD") own set of design and construction guidelines, which are codified at 24 CFR Chapter I, Subchapter A, Appendices II and III (the "Guidelines.") The primary HUD regulation implementing §3604(f)(3)(C) is 24 CFR §100.205.

Background

Section 3604(f)(3)(C) of the FHAA requires certain features of accessible design and adaptable design. These features are required for buildings completed for first occupancy after March 13, 1991 that meet the definition of

¹See generally 42 U.S.C. Chapter 45. The Americans with Disabilities Act, 42 U.S.C. §12101 et seq., does not cover housing, with the exception of common use areas that are made available to the public at large.

²The actual requirements for new construction are quite complex; this article provides only a brief overview. You are advised to consult with an expert when evaluating a particular property for compliance. I have relied on the HUD Fair Housing Design Manual (1998).

³There are different requirements for new construction or rehabilitation of housing financed with federal dollars.

⁴The legislative history for the FHAA indicates that Congress intended to place only "modest accessibility requirements on covered multifamily dwellings." House Report No. 711, 100th Congress, 2nd Session, at 25.

"covered multifamily dwellings." These dwellings include all dwelling units in buildings containing four or more units, if there is an elevator; and all ground floor dwelling units in other buildings containing four or more units. These units include, without limitation, apartments or condominiums, single-story townhouses, timeshare units, college dormitories, and shelters that are intended to be residences (such as transitional housing).

The FHAA and HUD's implementing regulations reference the 1986 ANSI A117.1 *American National Standard for Buildings and Facilities-Providing Accessibility for Physically Handicapped People*. These standards, when used in conjunction with the HUD Guidelines, are an acceptable benchmark for compliance.

Other "safe harbors" for compliance are:

1. HUD's March 1991 Fair Housing Accessibility Guidelines (cited above);
2. HUD's Fair Housing Act Design Manual (April 1998);
3. CABO/ANSI A117.1-1992, used in conjunction with the FHAA and HUD Guidelines;
4. ICC/ANSI 117.1-1998, used in conjunction with the FHAA and HUD Guidelines;
5. Code Requirements for Housing Accessibility 2000 (CRHA), approved and published by the ICC (International Code Council); and
6. International Building Code 2000 (IBC), as amended by the IBC 2001 Supplement to the International Code.

These requirements are in addition to any local building codes or requirements, unless local codes are more stringent than HUD's standards. Last year, building and construction organizations lobbied Congress unsuccessfully for changes to the FHAA accessibility requirements, complaining that the requirements are too unclear.

The Seven Requirements

The Guidelines outline seven design requirements. The first two requirements, relating to exterior routes and common areas, have the higher standard of "readily accessible."

Design and construction requirements within the dwelling (Requirements III through VII) are referred to in the Act and elsewhere as "features of adaptable design."

Requirement I. Accessible Building Entrance.

Covered dwellings must have at least one building entrance on an accessible route, unless it is impractical to do so because of terrain. An accessible route is a continuous unobstructed path connecting elements and spaces in a building or within a site that can be negotiated by a person with a severe disability in a wheelchair, that is also safe for others with disabilities. Routes include corridors, ramps, elevators, parking access aisles, curb ramps, and walkways. Builders must comply with ANSI A117.1-1986, Section 4.3 or a comparable standard for accessible route.

Requirement II. Public and Common Use Areas.

Public and common use areas must be readily accessible and usable for people with disabilities. Public or common use areas include hallways, lounges, lobbies, bathrooms, laundry rooms, mail rooms, recreational areas such as pools, tennis courts or playgrounds, and rental or sales offices. Again, builders must comply with ANSI A117.1-1986 or a comparable standard.

Requirement III. Usable Doors. Doors in public and common use areas and primary entry doors of covered dwellings have higher accessibility standards than interior dwelling doors. Primary entry doors and doors in public and common use areas must be "accessible" as opposed to "usable." All doors designed to allow passage into and within the premises must be sufficiently wide to allow passage by persons in wheelchairs. Primary entry doors must meet ANSI requirements. For example, thresholds on primary entry doors can be no higher than 3/4". Secondary doors need only be "usable." Patios and decks made of impervious materials, such as concrete, are allowed to have a 4" drop or more, if required by local codes.

Requirement IV. Accessible Route. There must be an accessible route into and through the dwelling units, providing access for people with

disabilities. This guideline requires an accessible route through the main door and throughout all of the rooms. The route must be sufficiently wide and lacking in abrupt changes in level. There is no requirement that it meet ANSI-type standards. The route need not go to the garage or basement. Additionally, this requirement requires the threshold at primary doors to be level or at most 1/2", depending on the exterior surface. Thresholds at sliding doors can be no more than 3/4".

Requirement V. Light Switches and Other Environmental Controls. All premises within the dwelling units must have light switches, electrical outlets, thermostats, and other environmental controls in accessible locations. Covered devices that must be in accessible locations include air conditioner and furnace controls, and outlets and light switches, but not circuit breakers, appliance controls or outlets dedicated to specific appliances. Appliances are not covered by the FHAA. However, in one recent case, a judge opined that if a kitchen is designed so that accessible appliances cannot be installed, a violation exists. Montana Fair Housing, Inc. v. American Capital Development, Inc., 81 F. Supp.2d 1057 (D. Montana 1999).

Requirement VI. Reinforced Walls for Grab Bars. All premises within dwelling units must contain reinforcements in bathroom walls to allow for later installation of grab bars around toilets, tubs, shower stalls and shower seats, where such facilities are provided. The grab bars themselves are not required.⁵ All bathrooms must be reinforced for grab bars. There are specific guidelines for toilets and different kinds of showers and bathtubs.

Requirement VII. Usable Kitchens and Bathrooms. Dwelling units must contain usable kitchens and bathrooms such that an individual who uses a wheelchair can maneuver about the space. Again, neither room must be made fully accessible. Clear floor space must be made available in front of ranges, cook-tops and sinks. There are particular requirements for U-shaped kitchens. Shelving is not addressed in the guidelines. There is no requirement that washers and dryers, or other appliances, be accessible (unless they are in common use areas).

Bathroom designs must allow the person with the disability to enter, close the door, use the fixture, and exit. Specifications include an accessible route, accessible switches and controls, reinforced walls, maneuvering space within the room to enter, close and reopen the door and exit, and maneuvering and clear floor space to permit a person using a mobility aid to approach and use fixtures. The Guidelines give two choices of specifications for the maneuverability requirement. There is no requirement that there be sufficient space for a person in a wheelchair to turn around. There must be, however, clear floor space adjacent to each fixture.

Enforcement

HUD has the administrative responsibility of enforcing the FHAA.⁶ An aggrieved party has up to one year from the date of the alleged discriminatory act to file an administrative complaint with HUD. HUD may also file a complaint upon its own initiative. The courts have taken a broad view of who can be liable under the act for failure to "design and construct" in accordance with the law. Owners, developers, architects and builders can all be sued under the Act.⁷

⁵Under other provisions of the FHAA, landlords must allow tenants with disabilities to make reasonable modifications at their expense. This would include installation of grab bars, accessible appliances, and other modifications. The landlord can require the tenant to restore the unit when the tenancy ends.

⁶HUD's regional office for Delaware is in Philadelphia, and complaints can be filed at Fair Housing Hub, United States Department of Housing and Urban Development, The Wanamaker Building, 100 Penn Square East, 12th Floor, Philadelphia, PA 19107. (215)-656-0663, (ext. 3260). Complaint forms and other information can be obtained through the regional office or on the internet at www.hud.gov. You can also file a complaint on-line.

⁷Doering v. Pontarelli Builders, 2001 WL 1464897 (N.D. Ill., Nov. 16, 2001); Baltimore Neighborhoods, Inc. v. Rommel Builders, Inc., 3 F.Supp.2d 661 (1998).

After a complaint has been filed, HUD will investigate the matter and attempt conciliation between the parties. At the end of the investigation, HUD may either dismiss the complaint or file a charge if the case has merit. If a charge is filed, the case will go to hearing before an administrative law judge. HUD can also recommend to the United States Department of Justice that a civil case be filed, and will bring the case on the complainant's behalf.

Alternatively, the FHAA also allows private enforcement in civil action in state or federal court. Aggrieved parties have up to two years from the date of the alleged discriminatory practice to file a civil case.⁸ There is no requirement that a person exhaust the administrative process, and a civil case can be filed when an administrative case is pending.

If the aggrieved party prevails at either the administrative level or in court, s/he may be entitled to actual and compensatory damages, injunctive or other equitable relief, attorney's fees and costs. Money may be ordered into escrow to pay for any structural modifications or retrofittings that must be made.

Delaware's Fair Housing Act, 6 Del. Code Chapter 46, is substantially equivalent to the FHAA, and also contains accessible and adaptable design requirements. 6 Del. Code §4603(a)(6). An aggrieved party can file an administrative complaint with the Delaware Division of Human Relations.⁹ The Delaware Fair Housing Act can be enforced administratively through the Human Relations Commission, through private enforcement action, or through enforcement by the Delaware Attorney General's office.

There have been many successful efforts to enforce the FHAA accessibility guidelines, although much work continues to be necessary. A typical case at the administrative level is

Secretary, HUD v. Perland Corp., et al, 1998 WL 142159 (H.U.D. A.L.J., March 30, 1998). In Perland, the builder and partial owner of several apartment buildings was ordered to retrofit several ground floor apartments and common areas, to pay money into escrow for future work, and to pay civil penalties and damages to the organization that brought the case for the diversion of its resources in bringing the case.

One of the most comprehensive decisions to come out of the federal courts is Baltimore Neighborhoods, Inc. v LOB, Inc. 92 F. Supp. 2d 456 (D.Md. 2000). In BNI, an advocacy group successfully sued a developer and builder of a condominium complex for such violations as: failure to reinforce bathroom walls, insufficiently wide interior doors, a step up into ground floor units, twist door knobs on exterior doors, and inadequate clearance in bathrooms. The case settled against some defendants and a bench trial was conducted on some claims. The Court ordered retrofitting of common areas and interiors, and required the developer to place in excess of \$300,000 in escrow to pay for the work.

In Montana Fair Housing, Inc. v. American Capital Development, Inc., 81 F. Supp.2d 1057 (D. Montana 1999), a number of defendants were found to be in violation of the FHAA for failure to build ground floor access routes, to make proper placement of environmental controls, and for building inaccessible common areas, including a playground.

Finally, the former owner of an apartment complex was ordered to pay to retrofit a unit to bring it into compliance with the FHAA, with escrow of funds. The plaintiff was also awarded compensatory damages for distress, and a small amount of punitive damages. See Balachowski v. Boidy, 2000 WL 1365391 (N.D. Ill., September 20, 2000).

⁸HUD takes the position that as long as a covered building continues to be in non-compliance, a complaint can be filed. There is some disagreement among the courts on this "continuing violation" theory. See Baltimore Neighborhoods, Inc. v. Rommel Builders, Inc., 40 F. Supp. 2d 700 (D. Md. 1999); But see Moseke v. Miller and Smith, et al, 2002 WL 1021103 (E.D. Va., May 17, 2002).

Conclusion

While not as far-reaching as the ADA, the FHAA does provide a framework for acquiring a base level of accessibility for newly constructed multifamily dwellings. If these guidelines are implemented, and if people are willing to take steps to enforce these requirements when builders and developers fail to comply, then the stock of housing that can at least be easily adapted for use for people with disabilities should increase. ■

New Book on Universal Design for Learning

The founders of CAST, David Rose and Anne Meyer, have published a new book titled *Teaching Every Student in the Digital Age: Universal Design for Learning*. Learn more about it from the CAST website at www.cast.org/teachingeverystudent/tes. ■

Enabling Safe Evacuations

By Susanne M. Bruyere and William G. Stothers

On Sept. 11, 2001, a woman who uses a wheelchair and worked on the 68th floor of the World Trade Center was able to safely evacuate the building, thanks to a specialized chair. Another wheelchair user—Edward Beyea—worked more than 40 floors closer to the ground, on the 27th floor of the North Tower, but wasn't as fortunate. According to numerous published reports, Beyea and a friend waited for help. They are missing and presumed dead.

The woman who escaped worked in the World Trade Center when it was attacked in 1993. In the aftermath of that attack, a specialized chair designed for carrying someone down flights of stairs was obtained for her in case of emergency.

Surviving a disaster—such as a terrorist attack, fire, flood or earthquake—is a struggle for anyone. That's true also for people with disabilities, who are entering the workforce in ever-increasing numbers.

Who Is Responsible?

The Americans with Disabilities Act (ADA) requires employers to modify their policies and procedures to include people with disabilities. These requirements apply also to evacuation plans.

"Employers may be required to provide reasonable accommodations to employees so

they can evacuate during emergencies," states information posted on the web site for the Job Accommodation Network (JAN), a service of the U.S. Department of Labor.

The JAN web site also states that although "individuals with disabilities may have specific needs and concerns, all employees will benefit by knowing workplace safety features and emergency procedures."

10 Places to Start

As engineers, architects and safety experts study the collapse of the World Trade Center towers and begin devising new plans and procedures for safely evacuating buildings, they will need to ensure that their plans include everyone.

In the meantime, employers can follow these 10 steps to help all employees—including those with disabilities—escape from a building in case of an emergency:

1. Identify persons who will need

assistance. People with mobility impairments—who use wheelchairs, walkers, crutches or canes—come to mind immediately. But, while employers may ask employees with known disabilities if they need assistance in an emergency, employers "should not assume that all individuals with obvious disabilities will require assistance," says Paul Steven Miller, commissioner of the Equal Employment Opportunity Commission (EEOC).

In addition, employers must consider the needs of employees whose conditions may be less obvious, such as:

- Individuals with arthritis.
- Persons with hidden disabilities, such as heart problems.
- Those who have breathing difficulties, such as asthma.
- Persons with cognitive impairments.
- Individuals who are blind or have impaired vision.
- Persons who are deaf or hearing-impaired.
- Individuals with temporary conditions, such as a broken leg or a sprained ankle, or women who are pregnant.

In addition, many workplaces contract with cleaning crews, security guards and other services that may employ people with disabilities.

Be aware that some individuals may be reluctant to ask for help during emergency planning. Edwina Juillet, a consultant on fire/life safety for people with disabilities, interviewed 27 people with disabilities after the 1993 bombing of the World Trade Center. Although emergency plans were developed before the incident, some individuals did not identify themselves as being disabled because they wanted to maintain their privacy or felt they would not need assistance, Juillet found.

2. Consult those identified. Work with these individuals to select any necessary assistive equipment and to set up procedures for ensuring a safe evacuation of the workplace. Consult also with local fire and rescue officials on ways to ensure the safety of employees with disabilities.

Because some individuals with disabilities require a personal attendant or job coach, it is important that these individuals also be consulted.

Impress upon employees that they must take some responsibility for making sure their emergency needs are met. Ask what kind of assistance they might need, how much of it and

how best to provide it. "Individuals with disabilities are generally in the best position to assess their particular needs," says the EEOC's Miller.

3. Conduct evacuation drills—both planned and surprise. Practice, practice, practice. "If not practiced, even the best procedures and technologies fail when a real emergency arises," says James L. Mueller, workplace designer and job accommodation consultant to industry and government. "Similarly, by actually going through the motions of an emergency, unforeseen problems and practical solutions are more likely to surface." In addition, it is important to periodically review all evacuation procedures.

4. Consider a "buddy system," where non-disabled volunteers assist people with disabilities. For example, at NCR in Dayton, Ohio, a small team of employees is "assigned to each NCR Employee with a Mobility Disability (EMD) to help evacuate them in case of emergency," says Steve Jacobs, president of IDEAL at NCR, a group that supports NCR employees with disabilities.

Volunteers take on a range of duties, from "accompanying the EMD during the evacuation to carrying them down the stairs." Jacobs adds that "teams are made up of employees in the same department as the EMD. The EMD is responsible for training their team on how/how not to lift and carry them."

5. Make sure that all hallways and stairways are clear. Make sure that fire-safe and smoke-free "areas of refuge/rescue assistance" are established and equipped according to code. These areas, which are required under ADA regulations and often are adjacent to stairways, provide temporary protection from smoke or fire while individuals wait for rescue crews to arrive.

ADA regulations specify that each area of rescue "shall provide at least two accessible areas each being not less than 30 inches by 48 inches. The area ... shall not encroach on any required exit width. The total number of such

30-inch by 48-inch areas per story shall be not less than one for every 200 persons of calculated occupant load served by the area of rescue assistance."

Each rescue area also must provide a method of audible and visible two-way communication.

6. Install visual and audible alarms and ensure they are in working order. Consider supplemental lighting and tactile signage on the floor adjacent to exits and areas of rescue assistance, suggests Leslie Young, director of design at the Center for Universal Design at the University of North Carolina at Raleigh.

Smoke will impair standard height visuals for everyone as they crawl along the floor. As a result, floor signage will enhance everyone's chances for survival.

7. Install an evacuation chair on each floor for every person who needs one. Make sure that those who need the chair—and those who will operate them—are trained in their use.

8. Ensure accessible and reliable communications. Jacobs says that NCR's security group "provides each EMD a personal cell phone designed to connect directly to our security office. We have security officers in each of our campus buildings. These officers carry keys to the elevators in these buildings. At their discretion they can opt to use the elevator for evacuation."

9. Provide appropriate equipment and assistance outside of your building. After they evacuate a building, individuals may need certain equipment. For example, people with mobility impairments will need a wheelchair. When the World Trade Center was bombed in 1993, blind individuals were successfully evacuated from the buildings—only to be left on their own outside, amid building debris, in a winter ice storm.

10. Include disability-related supplies in office first aid kits. Such supplies—which might include syringes, respirators, catheters, padding and distilled water—may be invaluable in the aftermath of an emergency. Also,

encourage employees to make lists of medications, equipment, doctors and other important information they might need in a disaster or emergency.

Too Much Trouble?

Some employers may be leery of the costs they may incur trying to develop plans to evacuate individuals with disabilities. But such an approach misses the potential benefits of such planning.

"Designing universal access into disaster relief plans, far from being a costly proposition, can pay off handsomely," says Peter David Blanck, a professor at the University of Iowa College of Law. "A universal design approach to meeting the needs of people with disabilities before and after a disaster will benefit many people without disabilities, such as the very young or the aged." ■

Reprinted with the permission of HR Magazine published by the Society for Human Resource Management (www.shrm.org), Alexandria, VA. Susanne M. Bruyère, SPHR, is the director of the Program on Employment and Disability at Cornell University in the School of Industrial and Labor Relations—Extension Division in Ithaca, N.Y. She currently serves on the Board of the National Association of Rehabilitation Research and Training Centers. William G. Stothers is deputy director of the Center for an Accessible Society, a San Diego-based center established to promote coverage of disability and independent living by the national media. Stothers previously was editor of MAINSTREAM Magazine, a national newsmagazine for people with disabilities. He also worked as an editor at The San Diego Union and Toronto Star newspapers.

More on Evacuation Plans

Until architects design buildings with a universal evacuation plan, people with disabilities, who live and/or work above the second floor, need to design their own evacuation plans. Without one they may find themselves left behind. This article will acquaint you with some evacuation devices on the market.

FYI: Evacuation Products

The **Evacu-Trac**, manufactured by Garventa, has tracks that grip stairs securely, safety straps, and can carry up to 300 pounds. It comes with an optional steel storage cabinet. For more info on this device, call 800-663-6556.

The **Evac + Chair** is light (18 pounds) and has a 300 pound capacity. With it, a person can get another person out of the building. Call 212-369-3710 for further information.

The **Evac-Aide** is a convenient device constructed of heavy fire resistant material with reinforced webbing over the full length on each side. It has four hand loops on each side for easy carrying. It has a slick lower surface that reduces friction, making it easy to drag a heavy person out. It can also be rigged as a sling using the S hooks (two on each end). Contact Tie Tech Inc. or call 425-743-5863 for more information on their products.

With the **EvacuSled** the user literally slides down the steps to safety (with the help of others guiding it and regulating its speed). It's small and can be stored under a bed or in a utility closet. Gravity helps the volunteers slide the unit, without risk of injury. To learn more about this device call 514-356-1224.

This is not an all-inclusive list of evacuation devices and manufacturers, and we do not endorse one product over another. Do some investigation and check out several devices to find the one most appropriate for your own needs and situation. Heavy blankets or canvas, a cot or even a hand truck could also be used as an evacuation device. But a device alone isn't enough. Ask neighbors or co-workers to

volunteer to help you out of the building should an evacuation occur. Have a mock evacuation to test your device and plans.

What You Can Do Now

Besides having a plan and the right evacuation device, find out if the building keeps a list of everyone who needs help leaving the building. It should indicate the floor on which the people with a disability work or live, so firemen know where people may be waiting for help. Certainly find out if there are any evacuation aids on your floor. Advocate for yourself and other people with disabilities in the building to get some devices if there are none.

Spend some of your advocacy efforts pushing for buildings that have a universally designed evacuation method. Until that changes, people with disabilities will always face formidable disadvantage during emergencies. ■

Excerpted with permission from "Last Invited In & Forced to be Last Out," an article in TECHTALK, the Illinois Assistive Technology Project Newsletter (217-522-7985; www.iltech.org)

E-newsletter from HalfthePlanet

HalfthePlanet Foundation is a nonprofit organization that supports the applications of technology to promote the values of the Americans with Disabilities Act: independent living, social inclusion, equality of opportunity, economic self-sufficiency, and empowerment. Among its endeavors are the HalfthePlanet Today E-Newsletter and the HalfthePlanet web site. To subscribe to the newsletter, visit the website at www.halftheplanet.org and enter your name and email address in the box on the lower-left side of the page. ■

More on Assistance Dogs

*Eden Melmed, AT Specialist
New Castle County ATRC*

It used to be that Assistance Dogs were trained in one capacity—as "seeing eye dogs," guiding individuals with visual impairments safely to their destinations. More recently, the training of Assistance Dogs has been expanded to assist persons with hearing impairments and physical disabilities. The dogs are becoming versatile, reliable assistants for individuals with a wide variety of needs. By aiding in daily activities, they allow persons with disabilities to lead more productive, independent and unconstrained lives. The dogs also offer a source of companionship, loyalty and unconditional love. In 1995, a study by Karen Allen, Ph.D. and Jim Blascovich, Ph.D. found that people with disabilities who had service dogs showed substantial improvements in self-esteem, psychological well-being, community integration and feeling in control of events. In addition, the number of personal assistant hours required for care decreased by an average of 78 %.¹

The three most common types of Assistance Dogs are Guide Dogs for persons with vision impairments, Hearing Dogs for persons with hearing impairments, and Service Dogs for persons with physical disabilities and/or mobility impairments. Dogs can also be trained to function as Seizure Alert/Response Dogs, Psychiatric Service Dogs and Combination Dogs (for persons with multiple disabilities).

Guide Dogs assist people with vision impairments by avoiding obstacles, stopping at curbs and steps, and negotiating traffic. The harness and U-shaped handle facilitate communication between the dog and the owner. The owner's role is to provide directional commands, while the dog's role is to ensure the team's safety, even if this requires disobeying an unsafe command. Large breeds such as Labrador Retrievers, Golden Retrievers and German Shepherds commonly serve as Guide Dogs.

Hearing Dogs assist people with hearing impairments by alerting them to a variety of household sounds such as a doorbell or door knock, alarm clock, oven timer, telephone, baby cry, name call or smoke alarm. Dogs are trained to make physical contact and lead their owners to the source of the sound. Hearing Dogs are generally small to medium in size and are identified by an orange collar and leash and/or vest.

Service Dogs assist people with physical disabilities in a wide variety of tasks. Some examples of mobility tasks a service dog may be trained for are maintenance of balance during transfer or ambulation, pulling wheelchairs and aiding in rising from a seated or fallen position. Dogs can also be trained to retrieve objects that are out of reach, open/close doors and drawers, help with dressing and undressing, turn light switches on/off, bark to alert for help and locate people, places or items. Golden or Labrador Retrievers are often trained as Service Dogs and can be identified by either a backpack or harness.

Assistance Dogs not only provide a specific service to their owners, but also greatly enhance their lives with a new sense of freedom and independence. If you would like to learn more about being partnered with a dog, please contact an agency below or your local ATRC.

Delta Society National Service Dog Center,
289 Perimeter Road East, Renton, WA 98055,
800-869-6898, www.deltasociety.org

Canine Companions for Independence, 1505
Linden Avenue, Willow Grove, PA 19090,
215-602-2093, www.caninecompanions.org

Canine Partners for Life (Service Dogs), PO
Box 170, Cochranville, PA 19330, 610-869-
4902, www.k94life.org

Independence Dogs, Inc. (Service Dogs), 146
State Line Road, Chadds Ford, PA 19317,
610-358-2723, www.independencedogs.org

¹Allen, K. & Blascovich, J. (1996). The value of service dogs for people with severe ambulatory disabilities. *Journal of the American Medical Association*, 275, 1001-1006.

Note: The Americans With Disabilities Act (ADA) defines a Service Animal as any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability. Disabled individuals with service animals are guaranteed legal access to all places of public accommodation, modes of public transportation, recreation and other places to which the general public is invited. ■

New Federal Office on Disability

Health and Human Services Secretary Tommy G. Thompson announced the creation of the HHS Office on Disability to oversee the coordination, development and implementation of programs and special initiatives within HHS that impact people with disabilities. Margaret J. Giannini, M.D., F.A.A.P., currently the principal deputy assistant secretary for aging at the Administration on Aging (AoA), has been appointed the director of the new HHS Office on Disability.

The announcement builds on the work of President Bush's New Freedom Initiative, a comprehensive plan to tear down barriers that prevent people with disabilities from fully participating in community life. The new office will help centralize many of the recommended strategies outlined in a report to President Bush, which explored solutions to reducing barriers in all areas of society for people with disabilities.

As head of the new office, Giannini will oversee the coordination of HHS disability issues and special initiatives. Preparations are currently underway to officially open the new office this fall. ■

Pathfinder Includes New 32-Location Unity Program

The Unity 32 program is now a standard feature of the Pathfinder communication aid. The Unity Tour Guide and Vocabulary Sort include documentation to support the new software. Designed specifically for the Pathfinder, Unity 32 makes full use of the hardware and software features of the device. Unity 32 actually includes two integrated versions, a "single-hit" program that provides a very simple introduction to the vocabulary and a "sequenced" version that allows access to an expanded vocabulary by sequencing icons.

Who will benefit from Unity 32?

Any individual with visual or motor impairments may find the larger graphics and larger keys easier to access. This program may also be a starting point for very young augmented communicators and those users with moderate to severe cognitive challenges.

How many words does the program contain?

The Single-Hit vocabulary contains 2100 "root" words. Adding word endings in Unity 32 expands the vocabulary very quickly. The Sequenced version contains the 2100 root words plus 200 "core" words and phrases. With the Sequenced version, access to vocabulary requires fewer keystrokes.

Transitioning with Unity

Unity software allows users to expand their vocabulary without learning a new system. These programs use the same icons, the same icons sequences for vocabulary, and similar icon locations. Unity 32 includes:

- ✓ Sentences
- ✓ Spelling and Word Prediction
- ✓ Computer access
- ✓ Songs, games and activities
- ✓ Notebooks
- ✓ Environmental controls

The DATI Assistive Technology Resource Center near you has a Pathfinder for demonstration and short-term loan. To purchase a Pathfinder, call the Prentke Romich Company Sales Office at (800) 262-1933. To add Unity 32 to a Pathfinder you already own, call the PRC Service Department at (800) 262-1990. ■

Assistive Devices for My Memory

by Anne Dunlap

I am a survivor of a severe brain injury. Now I have problems with my short-term memory and writing. But, I am still able to use a computer. I use a Timex Data-Link watch regularly. I was introduced to this system by Anju Vaidya, a cognitive therapist, at duPont Hospital for Children.

I purchased it at an office supply store, but the easiest way to find it today may be at a jeweler or on the Web. Mine cost less than \$100. I have used it about two years—my model (150S) has been discontinued. Currently available models seem to be "Ironman" styles, or the more expensive "pager" watches. Casio offers a similar watch called the "PC-Unite."

The alarm works by sending a beeping signal while running the printed message across the face of the watch. I would recommend this to anyone with a memory problem, or otherwise! It's a good and convenient way to get reminders—it's strapped on your arm, so you don't have to worry about misplacing it.

Timex calendar software comes with the watch. My older watch is also compatible with Microsoft Outlook 97, using a "export Wizard" we downloaded from a Microsoft website, and I am about to attempt to use it with Outlook 2000. You update the watch by holding the face of the watch up to the monitor screen. A flashing signal comes across the computer screen and transfers the information to the watch. You can have everyday reminders put in the watch (like times for meds), as well as appointment reminders (like doctor's appointments). You can set the alarm to go off early, if you want. The watch also stores phone numbers.

I use this system because it's on the computer in my room, which I use for e-mail and school work, and I am also able to print out a daily sheet for my planner which is identical to the times/appointments that I have transferred to my watch.

This alarm/watch system is good for me because I'm able to be independent during the day with all kinds of things because of these reminders. During the day I use a digital voice recorder, which I keep in my purse, for things I want to type in my calendar or memory log later. I use the RCA Model RP5007, which offers me several advantages. It has 9 "file folders," and I use folders 1-7 for the days of the week. For example, folder 1 is for "voice reminders for Sunday," and I have put a key on the back of the recorder for quick reference. This recorder is also thin, so it fits easily into a pocket or a small purse. Its keys are easy to use with either hand, which is important for people with hemiplegia. And, the recorder has a "lock" button which prevents it from turning on accidentally.

If you have any questions, contact my father, Jim Dunlap, at home at (302) 239-6096. ■

This article first appeared in Volume 1, Issue 1 of What's Happening, the Brain Injury Association of Delaware's newsletter, and is reprinted with permission from the author and the Brain Injury Association of DE.

Brochure on Adapted Vehicles Available

The National Highway Traffic Safety Administration has published a simple, easy to read brochure titled "Adapting Motor Vehicles for People with Disabilities," and is making it available free of charge. This brochure is 20 pages long and fits in a #10 envelope. You can request multiple copies to distribute with mailings or at conferences by contacting Rhonda Keith at the Consumer Automotive Safety Information Division of NHTSA (phone 202-366-0291 or email at rkeith@nhtsa.dot.gov). ■

Inclusion Works!

This year's Inclusion Conference, scheduled for Thursday, November 14, brings outstanding speakers from all over the country to Ruddertowne in Dewey Beach. Kathie Snow, the keynote speaker, is a wife, mother, author, and advocate of innovative thinking about children and adults with disabilities. In her opening talk, titled *Living Real Lives*, she will explore the fact that too many children and adults with disabilities live their lives as "clients of the system" instead of "citizens of their community." She will suggest that only when we move from dependence on the service system to interdependence in the community will we ensure real lives for people with disabilities.

No More Fighting!

Snow will also offer a full-day session titled *No More Fighting!*, in which she will bring a new perspective to the often contentious Individualized Education Program (IEP) planning process. Snow says it is time to make the IEP process fun, productive, and beneficial for all. She will demonstrate that when parents and educators practice proactive and cooperative advocacy, everyone wins.

Fostering Literacy and Language Development Among Students with Disabilities

This workshop will be presented by literacy expert Dr. Karen Erickson, an associate professor and coordinator of the Center for Literacy and Disability Studies at the University of North Carolina at Chapel Hill. Dr. Erickson will introduce a framework for understanding the critical link between literacy and language, and will guide attendees in applying research-based best practices to literacy instruction. She will also discuss the

ways in which assistive technologies can be used to support literacy and language learning.

Building Effective Supports for Successful Educational Experiences

This workshop will explore the necessity for clear and focused IEPs, tailored related services, and paraeducator supports. The presenter, Dr. Susan Edelman from the University of Vermont, is also the Social Services Director for the Vermont I-Team, an interdisciplinary team that provides technical assistance, training, and family support related to children with intensive educational needs. Dr. Edelman's workshop will provide attendees with sound guidance and a variety of strategies addressing educational services and supports.

Utilizing Principles and Practices of Positive Behavior Supports

This workshop will provide both background and implementation strategies related to the conduct of Functional Assessments and the development of Positive Behavior Support (PBS) plans. The presenter,

Margaret Lang, has worked with and within school districts in Louisiana for more than 20 years. First as a classroom teacher, and now as a provider of training and technical assistance, her expertise relates to inclusion and enhanced outcomes for students with disabilities in the context of overall school improvement. The workshop will discuss the relevance of PBS in building environments that address the diverse needs of all students.

Conference Details

The Inclusion Conference will be held from 8 a.m. until 3:15 p.m. on Thursday, November 14. It is open to educators, parents, policymakers, and all others interested in the educational success of students with



disabilities. To facilitate educator attendance, the Delaware Department of Education will provide financial support for substitutes. In addition, a block of rooms at the Marina Suites has been reserved for the convenience of attendees who are coming from a distance and would prefer to spend the night before the conference (November 13) in Dewey Beach. Suites are \$39 + 8% tax; to reserve a room, contact the Marina Suites at (302) 227-1700 and reference the Inclusion Conference. Conference registration is \$20, and registration materials and additional information can be obtained by contacting DATI by phone at 800-870-3284 or 302-645-4358, by fax at (302) 651-6793, by TDD at (302) 651-6794, or by email at rathel@asel.udel.edu. ■

Access Board Issues New Accessibility Guidelines for Recreation Facilities

On September 3, 2002, the Access Board published new guidelines that address access for persons with disabilities to a variety of recreation facilities. The guidelines specify the minimum level of accessibility required in the construction or alteration of amusement rides, boating facilities, fishing piers and platforms, golf courses, miniature golf courses, sports facilities, swimming and wading pools, and spas. Details are available at www.access-board.gov/news/recrule.htm. ■

Senate Subcommittee on Children and Families Holds Hearing on Instructional Materials Accessibility Act

On June 28, Senator Chris Dodd (D-CT) chaired a hearing about the Instructional Materials Accessibility Act (IMAA), S. 2246. Witnesses at the hearing were Pat Schroeder, President and CEO of the Association of American Publishers and former member of Congress; Jessie Kirchner, a senior at Guilford High School in Guilford, Connecticut; Dr. Mark Maurer, President of the National Federation of the Blind; and Barbara McCarthy, Director of the Library Resource Center of Virginia's Department for the Blind and Visually Impaired.

Senator Dodd noted that while the ADA and IDEA call for access to education for all people with disabilities, too often that access is denied because textbooks are not available in alternative formats in a timely fashion. While 26 states have laws requiring publishers to provide textbooks in electronic formats, there is no uniformity to those formats. Publishers waste time creating many different types of formats that comply with the different laws. S. 2246 requires one uniform file format to ease the burden on publishers and on the conversion

process. It creates a National Instructional Materials Access Center where all school systems can access textbooks on electronic files and it provides funds to school systems to support the conversion of files into Braille.

Senator Dodd noted that Representatives Tom Petri (R-WI) and George Miller (D-CA) have introduced the bill in the House. Sen. Dodd would like to see the bill enacted into law before the end of the year. Sen. Dodd noted that if he could he would name this bill after his sister Carol, who is legally blind and a teacher in Connecticut. He witnessed the herculean efforts his parents made to ensure that she had access to information so that she could complete her studies.

Pat Schroeder testified that the publishers wholeheartedly support this bill and hope it will be enacted this year. She noted it would go a long way to address the chaotic, costly and ineffective process followed now when trying to provide texts to students in alternative formats.

Jessie Kirchner described the process she undergoes in attempting to secure the proper

texts for her classes. She must request the texts by March for the following year. Usually class schedules are not made up by March, so she often must guess what she might be taking. If she is in a class that is a prerequisite for another class, she doesn't know until the class is over at the end of the semester whether she will qualify to take the higher level course. She noted that in her math class she had no book for months because it took so long for it to be converted to Braille. She said that books on tape are less effective than Braille because the student can't turn the page in class and stay with the teacher. "Having a text book in class should be a right, not a privilege," she concluded.

Mark Maurer noted that his mother learned Braille herself and transcribed all of his books so he could get through school. It is not fair to put this burden on families, he noted. In order to keep the promise of *No Child Left Behind*, this legislation needs to be enacted, he said.

Barbara McCarthy explained how the system works in Virginia. She noted that they just received 5 requests for Braille textbooks for the coming school year. One of the books is a 1183 page biology book. She said that it will take 9 months to Braille that book at a cost of \$16,562. If the system envisioned in S. 2246 were in place, it would take one week to Braille the book and it would cost \$785.

Senator Dodd noted that of the 94,000 K-12 school children who are visually impaired, only 5000 use Braille. Witnesses said that knowledge of Braille correlates highly with the employment rate of blind people. While the employment rate of all blind people is 32 %, it is 90 % for those who use Braille. More Braille texts and more teachers who use Braille are needed.

Senator Dodd concluded the hearing noting that with a small financial investment (the bill costs about \$1 million per year after a \$5 million start up investment), a huge difference can be made. ■

Universal Design for Learning – A Push For Accessible Digital Formats To Set Literacy In Motion

Merely providing students with digital text on a screen does not guarantee that information is accessible or that learning will occur. In fact, too many digital learning materials and Web sites are not accessible to the widest possible audience.

Electronic learning materials create unnecessary barriers in education as a result of uniformed design decisions. But help is on the way! Accessibility guidelines for designers and Web masters are available from many accessibility and usability experts. The ideal is to create within education electronic learning materials and equipment with few or no barriers right from the start; then, use the power of increased access and the promise of supported personalized learning through UDL to achieve optimal educational results for all students.

In classrooms this would mean a change from narrow fixed materials to those that increase

access to curriculum content. It requires a switch from the exclusive use of books that are printed on paper to learning experiences using electronic texts. Research at CAST shows that digital versions of books are much better for many students, including those with disabilities. Why? Because while the content of the books is exactly the same, the difference is in the way that the content is displayed. Printed words on paper are fixed, unchangeable text. In digital versions, the computer presents content in many different ways that students or their teachers select and adjust. Here are some examples:

- Sara, who has low vision, can increase the font size so that it is large enough for her to see it comfortably.
- Bill, who is blind, can turn on text that appears on the screen as spoken words, or tell the computer print it on a Braille printer.

- Jen, who has physical disabilities, can advance from screen to screen through the pages of a book by blinking her eyes.
- Michael, who is dyslexic, and students who are underachieving for various other reasons, can use the mechanical mouse to click on a difficult word so that the computer reads it aloud or links it instantly to a definition that is linked to the content.

In the best cases, accessibility occurs via direct access for most students. Products designed to be inclusive with UDL features keep costs down for schools because the materials are usable by large numbers of students. The programs work more smoothly than when equipment is added in order to help learners. However, technology producers are not yet manufacturing truly versatile products so that all can learn.

Most current successes for students with physical and sensory disabilities come in the form of adaptive or assistive technologies. These can be stand-alone or they work as "add-on" programs or devices intended to be compatible with standard computer equipment. Here are some examples:

- Matthew is a third grader who cannot speak or use his arms or legs. Electronic switches help him drive a wheelchair and to operate his computer so that he can write, communicate, and work on grade level.
- Katherine, who is blind, uses screen reader technologies to surf the Internet and work across the curriculum conducting research and preparing reports.
- Nina has a brain injury that causes her to be aphasic, and uses an electronic augmentative communication device to speak to her friends and collaborate on schoolwork.

Currently, even though advancements in technology are appearing each year, there are no completely universally designed products, and assistive technologies play a vital role as learning aids. Screen readers, screen magnifiers,

adaptive keyboards, word prediction software, voice recognition software, single switches, and others should be part of a school district's offerings. However, as technology advances, the hope is that assistive technologies and adaptive devices would become standard options within multimedia programs.

With product usability in mind, school districts that aim to achieve new literacy should purchase flexible and accessible instructional materials that are designed to reach as many students as possible. Some of these are:

- Text-to-Speech Supported Reading Software
- Talking Browsers
- Screen Readers
- eBook Software for Desktop PC's and Laptops
- Portable eBook Display Devices without Speech
- Books on Tape

Find more information about these and other literacy resources and to find links to product Web sites, at <http://www.cast.org/master/reference>. ■

This information was reprinted with permission from the CAST website (www.cast.org/ncac/index.cfm?i=2160). In a collaborative agreement with the U.S. Department of Education's Office of Special Programs (OSEP), CAST has established a National Center on Accessing the General Curriculum to provide a vision of how new curricula, teaching practices, and policies can be woven together to create practical approaches for improved access to the general curriculum by students with disabilities. Funding for the National Center on Accessing the General Curriculum is provided by the Office of Special Education Programs in the U.S. Department of Education.

Procedural Safeguards under the IDEA:

What Parents Can Do To Enforce the Provisions of a Student's IEP

Mary Beth Musumeci, Disabilities Law Program

Parents of children with disabilities who qualify for special education and related services under Part B of the federal Individuals with Disabilities Education Act ("IDEA") quickly become familiar with the document known as an Individualized Education Program ("IEP"). The IEP is the written plan developed by a team composed of the parent, teachers, a school district representative, and other individuals who have knowledge or special expertise regarding the child. The IEP describes the components of the "free and appropriate public education" ("FAPE") to which eligible students are entitled under the IDEA. It includes, among other things, measurable annual goals and short-term objectives geared toward how the child's educational needs will be met and a statement of the special education and related services and supplementary aids and services that the student will need in order to benefit from FAPE. What parents can find confusing or frustrating, however, is how to ensure that their child's IEP is written and implemented so that the provisions contained in that document become a reality for their child.

The IDEA and corresponding state law in Delaware provide several mechanisms by which parents can enforce the provisions of their child's IEP. These rights are described in the Notice of Procedural Safeguards that must be provided to parents when the child is referred for an evaluation or reevaluation for eligibility under the IDEA, when notice is provided for an IEP meeting, and when parents request a due process hearing. The remainder of this article describes the various options available to parents when they disagree with the implementation or contents of their child's IEP.

1. Call an IEP Meeting

Calling an IEP team meeting can be a simple and effective way to resolve disputes about the

content of an IEP or how the provisions of a student's IEP are being implemented. The IEP is supposed to be the product of consensus among the IEP team members, and parents should remember that they are an important and co-equal member of the IEP team under the IDEA. The IDEA makes clear that a parent can call an IEP team meeting at any time. Parents also can invite other people who have special knowledge or expertise regarding their child to participate in the IEP meeting. (It is courteous to let the school know in advance of the meeting if parents will be inviting people who are not otherwise part of the team.)

An IEP team meeting can be an informal, relatively quick way to resolve disputes. The ability to effectively communicate and collaborate with teachers and school district personnel is an important skill for parents to master so that the student's needs can be met. Establishing a productive working relationship with the school is vital because parents typically are going to have to work with the school for many years, potentially from the time their child is age three through age twenty-one. Therefore, the best approach is usually to make an earnest effort to work out disagreements within the IEP team setting before utilizing a more formal dispute resolution process.

2. File an Administrative Complaint with the State Department of Education

If parents are unhappy with the results of the IEP team meetings, they can file an administrative complaint with the state Department of Education ("DOE").

Administrative complaints must be in writing and signed by the person who is filing the complaint. The complaint must include the name of the agency against which the complaint is made, a statement that the agency has violated the IDEA and/or the state regulations contained in the Administrative Manual for Special Education Services, a description of the facts underlying the alleged violation, the time frame in which the incident occurred, a description of the attempts made to

resolve the dispute prior to filing the complaint, and contact information for the person filing the complaint. Complaints have to be received by the DOE within one year of the alleged violation, unless the violation is a continuing one, or unless compensatory services are sought for a violation that occurred within three years of the date the complaint is received.

In response to an administrative complaint, the DOE will conduct an independent investigation, give the person filing the complaint the opportunity to submit additional information about the allegations contained in the complaint, review all relevant information and make an independent determination about whether the school district is violating the IDEA, and issue a written decision that addresses each allegation in the complaint, including findings of fact and conclusions of law and the reasons for the final decision. The DOE's decision must be issued within sixty days, unless there are exceptional circumstances that justify a longer time. If the DOE determines that the school district failed to provide appropriate special education and related services to a child who is the subject of a complaint, the decision must address how that denial will be remedied.

3. Go to Mediation

In addition to filing a state administrative complaint, parents also can choose to pursue the administrative hearing system known as "due process." However, the DOE cannot investigate and resolve the parts of an administrative complaint that are also the subject of a due process hearing. In that case, the DOE must wait for the due process hearing decision.

Parents can choose mediation as an initial step in the due process hearing procedure. In Delaware, mediation is provided through the University of Delaware Conflict Resolution Program. Mediation is voluntary and free to parents. A trained impartial person will listen to the parent and to the school district's perspectives and help the parties work out a solution that is acceptable to everyone. Any

agreement reached by the parties in mediation must be put into writing.

Mediation is less formal and is intended to be less adversarial than a due process hearing. The content of the parties' discussions in mediation is confidential and cannot be used as evidence by either party later in a due process hearing or in court. One of the benefits to mediation that the focus is on not only resolving the current dispute between the parent and the school district but also on helping the parties to repair or develop a productive working relationship so that they can resolve other conflicts that arise in the future.

4. Request a Due Process Hearing

Perhaps the most well known procedural safeguard that parents can invoke under the IDEA is the due process hearing. This is an administrative hearing before a hearing panel composed of three persons. (There also is a procedure for requesting an expedited hearing. In that instance, a single hearing officer will hear the case.)

A due process hearing must be requested in writing, addressed to the state Secretary of Education, and signed by the parent, guardian, or attorney for the child. The hearing request should include the child's name and address, the name of the child's school, a description of the problem, including the facts related to the problem, and a proposed resolution to the problem. Parents can request a due process hearing when they disagree with the school district's decision about their child's identification for IDEA services, evaluation, educational placement, or the provision of FAPE to the child. Parents might disagree with something that the school district proposes to do, or they might disagree with the school district's refusal to do something that the parent believes should be done.

A due process hearing comes with many procedural rights. These include the rights to have a fair and impartial hearing before a three-member hearing panel, to be represented by an attorney hired by the parents, to present evidence, to confront and cross-examine

adverse witnesses, to compel witnesses to be present, to prevent evidence from being presented at the hearing if it was not disclosed at least five business days in advance of the hearing, to be told about evaluations that have been completed and the resulting recommendations at least five business days in advance of the hearing, to receive a written decision from the hearing panel, to have the child present at the hearing, and to decide whether to have the hearing open or closed to the public.

5. Appeal to Federal or State Court

If parents are unhappy with the due process hearing panel's decision, they can file a civil complaint in either the federal district court or in the state Family Court. Parents cannot file a

complaint in court without first going to a due process hearing. Due process decisions must be appealed to court within thirty days of the hearing panel's final decision. Parents must choose whether to file in federal court or state court. Although parents can go to a due process hearing without an attorney and represent themselves, they must have an attorney if they want to pursue an appeal in federal court.

Conclusion

Congress currently is debating the merits of reauthorizing the IDEA. At least for now, the IDEA's mechanisms for enforcing the provisions of IEPs remain essential tools for ensuring that children with disabilities receive the free and appropriate public education to which they are entitled under the IDEA. ■

In the Workplace: Learning Disabilities

Learning disabilities (LD) are neurological disorders that interfere with a person's ability to store, process, or produce information. The causes are unknown, but the effects on performance can be profound, despite the fact that individuals with learning disabilities generally have average or above average intelligence. Learning disabilities can affect a person's ability to read, write, speak, or compute math, and can also impede social skills and development. Performance can be inconsistent, with marked difficulties shown on certain types of tasks, but above average performance on others (National Center for Learning Disabilities, 2002).

Learning disabilities are primarily thought to be a school-related issue. This is understandable since common learning-related problems such as dyslexia are usually first identified in early grade levels. Improved screening and better awareness on the part of teachers has resulted in identifying as many as six to ten percent of students as having some form of learning disability (U.S. Department of Education, 2000). There are over 2.8 million school-aged children who receive special education services each year for learning disabilities (National

Center for Learning Disabilities, 2002). Other students with LD are not formally identified; they get by with assistance from regular education teachers or learn to adapt as best they can.

What about implications in the workplace? The common misconception is that this is only an academic problem, not a lifelong concern, but learning disabilities do not go away after graduation. The Foundation for Children With Learning Disabilities (2001) estimates that there are at least six million adults with learning disabilities. Many are underemployed and are passed over for advancement. Many select manual or physical work that requires little reading or comprehension of complex information. Since employers are generally not very aware of potential LD issues, functional deficits can create job performance problems after individuals are hired.

Is assistive technology the answer?

Learning disabilities, which are often subtle, hidden disabilities, are not one of the first disability areas where assistive technology resources would be considered. In the past ten years, there has been increasing awareness of

the benefit of technology as a tool to help deal with specific functional needs. One of the interesting developments is the recognition that some technologies developed for other applications may also be useful to people with learning disabilities. OCR (optical character recognition) reading systems are a good example. These tools were developed to enable persons who could not see text to be able to listen to it. This technology has proven to be effective in dealing with functional problems of persons with learning disabilities.

Here are a few applications of other technology that might address LD needs in the workplace:

- Scanning Technology that quickly copies text into a computer can reduce problems with document handling and inputting text information.
- Spell and Grammar Checkers are standard features in word processing software that are commonly used in writing and creating documents. These features will not teach someone to spell correctly, but they can reduce problems faced by someone with dyslexia.
- Portable Reading Pens scan text to catch spelling and vocabulary errors when individuals are not working on a computer.
- Memory Aids, such as the popular personal digital assistants (PDA), can help with attention deficit problems or simply be used as an organizational aid to plan work activities.
- Speech Recognition technology, or even a simple tape recorder, can alleviate problems with writing for persons with dysgraphia.
- Graphics and Icon-Based Referencing can help people with some types of LD manage text-based information and navigate through information, such as on web sites. For example, many fast-food restaurants have cash registers that use icons to improve overall efficiency and reduce errors.
- Calculators can help with problems of dyscalculia that impact math skills, such as change making and money management.

- Low-tech Accommodations such as color-coding of files or items, use of day planners and monthly calendars and similar organizational tools can help in many situations.

Technology specialists that are familiar with LD issues can work with rehabilitation counselors to analyze work tasks and determine specific problem areas that an employee may have. Technology specialists may also be useful if involved early in the rehabilitation process so that their knowledge of possible accommodations can help employees look beyond previous academic frustrations when formulating their vocational plans.

For more information on learning disabilities:

National Center for Learning Disabilities

Comprehensive resource on LD

<http://www.ncld.org>

LD OnLine

School-oriented site that also offers interesting discussion boards for possible work-related applications

<http://www.ldonline.org>

Misunderstood Minds

Special Public Broadcasting look at learning disabilities that focuses on students with LD, but has relevant content to relate to work issues.

<http://www.pbs.org/wgbh/misunderstoodminds/>



This material was provided by Tech Connections, a project funded by a grant from the National Institute on Disability and Rehabilitation Research of the Department of Education. For more information, visit www.techconnections.org

New Equipment Added to DATI Inventory

For most Delawareans, the DATI's Assistive Technology Resource Centers are their only source of equipment for trial use periods or other circumstances in which AT is needed for a short time. As a part of a recent project providing intensive training about AT for case managers from the Division of Developmental Disabilities Services, we acquired several new pieces of equipment. We are grateful to the Delaware Developmental Disabilities Council for the grant funding that enabled us to provide the training and add the following equipment to the DATI inventory:

Visual Assistant, AbleLink Technologies

BIGmack, AbleNet

Jelly Bean Switch, AbleNet

Penny & Giles Joystick Light, Don Johnston

Amazing Machine Ball Factory, Enabling Devices

CyberBug, Enabling Devices

Runaway Mouse, Enabling Devices

Sparkles the Clown, Enabling Devices

Small Oval Texture Switch, Enabling Devices

Chattervox (Voice Amplification System), Harris Communications

Picture WordPower for Pathfinder, Inman Innovations/Salttillo

New Talking Watch, LS & S

Compact Talking Timer & Clock, LS & S

Talking Thermometer, LS & S

Writing with Symbols, Mayer-Johnson

Wrist Guide Support, Sammons Preston

Long handled toe nail scissors, Sammons Preston

Flexible utensils – fork, Sammons Preston

Flexible utensils – teaspoon, Sammons Preston

Flexible utensils – plastisol-coated teaspoon, Sammons Preston

Wrist Support w/Palmar Clip, R, reg 3", Sammons Preston

Wrist Support w/Palmar Clip, L, reg 3", Sammons Preston

Weighted Cup, Sammons Preston

Grip-it multi-purpose tool, Sammons Preston

Medi-planner, Sammons Preston

Wanchik's Writer #2, Sammons Preston ■

DATI Equipment Loan Policy

DATI has a wide variety of equipment at the Assistive Technology Resource Centers for the primary purpose of demonstration and short-term loan. The policy for the loan of the equipment is as follows:

The standard loan period is two weeks, defined as the day borrowed (e.g., Monday the 10th) to the same day two weeks later (e.g., Monday the 24th). Loans may be extended providing there are no names on the waiting list and/or that an extension will not interfere with an existing reservation. The maximum loan period is 4 weeks.

A maximum of four (4) devices may be borrowed at a time, i.e., during any single loan period. However, combinations of devices may be treated as a single device if the components are interdependent—either operationally, or because one component is required for the user to access another.

Equipment loans across state lines are not permitted. Equipment must also remain in Delaware throughout the loan period.

To Contact DATI's Central Site office or the ATRC closest to you, call 1-800-870-DATI

Press

#1 for English or
#2 for Spanish,

then press

#3 for the Central Site office

#4 for the New Castle County ATRC

#5 for the Kent County ATRC

#6 for the Sussex County ATRC

TDD callers: Do not press #1 or #2 and your call will be answered on a TDD line at the Central Site office.

Toys for Children with Disabilities

*Marilyn Hammond,
Utah Assistive Technology Program*

Play is vital for all children's growth and development. Children discover the world around them through seeing, touching, tasting, hearing and exploring toys and other objects. Children master language and learn how to communicate with other people through play. Physical play activities help children grow stronger and develop better coordination. Children play with and control toys and discover how one action effects another. Feeling more self-confident is a natural result.

Think about children's preferences when choosing the most suitable toys. Traits of toys that can enhance learning and enjoyment include:

➤ **AGE-APPROPRIATE:** Would a peer of the same age enjoy the toy?

- **CORRECT ABILITY LEVEL:** Is the toy closely matched to the child's present abilities?
- **GROWTH ENHANCING:** Will the toy promote physical, mental, verbal or social skills?
- **CHILD-CONTROLLED:** Can the child operate the toy without help?
- **REINFORCING:** Does the toy interest, motivate, or excite the child?
- **INTERACTIVE:** Does the toy move, make a sound, or otherwise respond?
- **DURABLE:** Is the toy sturdy? Will it last with repeated use?
- **SAFE:** Does the toy have sharp edges, small parts, wires, cords, strings, or elastic that can get tangled around the child? Toys made with toxic or flammable materials should not be purchased. Don't let children play

with batteries. Repair or discard toys that are broken. Close supervision is still the best method to protect children from injury.

As you consider which toy to buy, decide whether any changes are needed. Generally speaking, the more independently the child can play with the toy, with or without making any changes, the better. Some play ideas for children with specific disabilities follow.

Visual Disabilities

Children with visual impairments enjoy toys that make sounds, vibrate, have texture or scent, or are marked tactually (through touch). Toys may be marked tactually with glue, plastic paste, tape, Velcro dots or Braille. Other options for children with partial vision are toys that emit light; or toys constructed with shiny, bright, contrasting, or colorful surfaces. Provide children with toys made from a variety of materials with different textures such as stuffed animals, wooden blocks, and plastic cars to encourage exploration.

Hearing Loss

For children with hearing loss, toys that have lights, print out messages, or are action packed make good choices. One example for young children is an activity center full of color and motion such as a bright plate that turns on a light when touched, a bead chain curtain, an unbreakable mirror, a push button that controls a small fan, and a big push button that animates a stuffed animal. Examples of action toys for older children include remote control cars and trucks. Toys with intricate parts and designs are better choices for older children. Toys that foster thinking such as puzzles and shape sorters should also be considered.

Language Disabilities

Children with language impairments often find toys and games that require talking difficult to enjoy. Dramatic play, such as playing "dress-up," can offer children a relaxed way of increasing their language and cognitive skills. A toy cooking center where children can pretend to cook may also promote speech. Another example is a remote control or switch-activated jet with sound. These toys may encourage children to freely vocalize or talk.

Motor Disabilities

Children with motor impairments often have trouble moving their hands, arms, or legs. Toys can be kept within reach by placing them on a tray, cookiesheet or box lid. Another method is to make a border around toys with pillows. Non-skid materials such as Dycem, Scoot Guard, light-weight carpet padding, or rubber pads can be attached to the bottom of the toy or placed underneath the toy. Toys can also be stabilized by adding suction cups, magnets, or velcro strips. Handles can be added or enlarged with foam curlers, rubber, or plastic coating. Light weight toys that do not require much strength may be easier for children to handle.

For children who cannot control arm movements, use unbreakable toys or attach toys to a secure, flat surface with clamps or other means. If the surface slopes, the toy may move too far away. Position the toy about 12 to 18 inches away to keep it within easy reach. Hanging or suspending toys is another option. A scooter board may supply the mobility needed to play with toys and explore the environment.

Cognitive Disabilities

Children with mental impairments often enjoy toys that require only a few steps to work. Toys that may not need to be adapted include magnetized blocks, large crayons, knobbed puzzles with a small number of pieces, and toys that respond to touch or sound. Children can often play with games if the rules are simplified. Paper game pieces can be laminated. It is usually a good idea to select games that children already understand and objects they are familiar with such as cars, kitchen sets, and baby dolls. Children generally like toys that move and make sounds by activating a switch. Switches that require only one movement to turn on are easier to use than those that require repeated motions.

Multiple Disabilities and Switches

For children with more than one impairment or for children who are unable to move, adapted or specialized toys may be the best choice. A variety of mail order catalogs sell toys for children with disabilities (see the list at the

end). Toys may also be custom designed or adapted by professionals such as engineers, teachers, and therapists. These toys often use a battery or are plugged into a socket. The toy is usually operated by a remote switch instead of the switch on the toy. The remote switch turns the toy or game on and off, just like using a light switch. A battery-operated toy needs an adaptation to the on-off switch so that a remote switch can be used. This adaptation can be permanent or temporary. Both can be made inexpensively at home. Books and booklets with directions for making temporary and permanent toy adaptations are listed at the end. These toys are generally more expensive. Also, adapted toys tend to break more easily, so look closely at the warranty.

Finding the best switch for a child to use requires a good evaluation. The evaluation focuses on movements the child can make without assistance. The type of switch selected depends on the child's strength and voluntary movements. A switch may also be chosen to promote desired movement. A switch can be positioned almost anywhere. Care must be taken so that abnormal movements are not increased by using a switch. Don't forget to consider the child's desires when choosing a switch or toy.

Switches come in many shapes and sizes with varying sensitivity and durability. These switches can be activated by a variety of movements including blowing into a straw-like device; tilting the head; or by movements of the chin, foot, hand, or finger. Switches can also operate things like mixers, toasters and other daily living items, resulting in more independence.

Playing with switch-activated and other adapted toys can provide the feeling of *I did it!* for children with disabilities. This feeling of success is often quite difficult for children with disabilities to achieve. Recognizing and rewarding children's efforts and successes on a frequent basis also helps foster positive feelings. With a little effort and planning, play can become a happy and rewarding experience.

Resource Web Sites

www.familyvillage.wisc.edu
www.empowermentzone.com
www.disabilityresources.org
www.makoa.org/
<http://codi.buffalo.edu>
www.irsc.org
www.familyeducation.com/home
www.ala.org/parents/index.html
www.afb.org
www.php.com
www.toy-tma.org ■

Reprinted with permission from UATPower of Independence (Spring 2000), the newsletter of the Utah Assistive Technology Program.

Promising Product - Reading Helper

A necdotal reports suggest that some students with learning disabilities are able to visually focus on words printed on colored paper or viewed through a colored lens or overlay. The Reading Helper is a low-cost product to add a color highlight to printed documents. It is a 7-inch-long, 1.25-inch-wide reading guide with a plastic color filter down the center. When placed on top of the line to be read, the transparent, colored plastic highlights the line and helps the reader focus on the words to be read. Reading Helpers with yellow, green, blue, red, and pink filters are available. They are sold for \$1 - \$2 each.

Contact:

Reading Helper, Inc.
Fax: 954-344-2133
E-mail: CBR1217@aol.com

Onion Mountain Technology, Inc.
Phone: 860-693-2683; Fax: 860-693-9433
<http://www.onionmountaintech.com/products.htm> ■

Please Keep Us Posted!



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If the address we have for you is incorrect, please type or print your correct address and forward it to DATI along with the current mailing label. If you no longer wish to receive this newsletter, please contact our office or send us your mailing label with “discontinue” written next to the label. Thanks for your cooperation.

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Non-Delaware Residents: If you wish to receive copies of *The AT Messenger*, the annual subscription fee is \$20. Make checks payable to the University of Delaware (EIN 51-6000297) and mail it to the address shown below with this completed application form.

Delaware Assistive Technology Initiative
University of DE/duPont Hospital for Children
P.O. Box 269, 1600 Rockland Rd.
Wilmington, DE 19899-0269
Phone: (800)870-DATI or (302)651-6790
TDD: (302)651-6794 FAX: (302)651-6793

I am a:

- ☐ Person with a disability
(please specify): _____
- ☐ Family member of a person with a disability
- ☐ Friend/advocate/colleague of someone with a disability
- ☐ Professional working with people who have disabilities
(please specify) _____
- ☐ Interested citizen
- ☐ Other (specify) _____

Accessibility Needs:

- ☐ Braille
- ☐ Large print
- ☐ 15/16 Audiotape
- ☐ 1-7/8 Audiotape
- ☐ ASL Interpreter
- ☐ Tactile Interpreter
- ☐ Transportation
- ☐ Spanish

I would like to be involved in:

- ☐ Technology users peer network
- ☐ Service provider network
- ☐ Funding initiatives
- ☐ Presenters network
- ☐ Project governance
(boards & committees)
- ☐ Advocacy activities
- ☐ Volunteer work as: _____

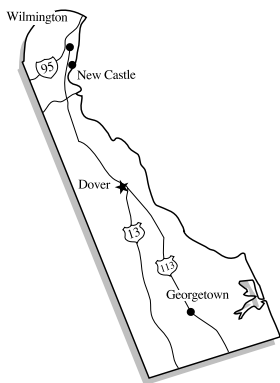


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Maryland's Eastern Shore
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Commons
New Castle, DE 19720-2405
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(TDD)

Kent County ATRC
Easter Seals of Delaware and Maryland's Eastern Shore
100 Enterprise Place, Suite One
Dover, DE 19904-8200
(302) 739-6885; (302) 739-6886 (TDD)

Sussex County ATRC
Easter Seals of Delaware and Maryland's Eastern Shore
Delaware Technical & Community College
Jason Technology Center, Room 104
Rt. 18, P.O. Box 610
Georgetown, DE 19947-0610
(302) 856-7946; (302) 856-6714 (voice or TDD)

The AT Messenger is published quarterly by the Delaware Assistive Technology Initiative (DATI).

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DATI is a joint project of the Center for Applied Science & Engineering at the University of Delaware and the duPont Hospital for Children.

DATI is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education, Grant #H224A10005. This publication does not necessarily reflect the position or policy of NIDRR/ED, and no official endorsement of the materials should be inferred.

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