

TECHNOLOGY BULLETIN BOARD

Technology is Not Magic

by Jack Moore

A technology expert reminds us that the computer is a tool, and that thoughtful human beings are the magical ingredient. People, not machines, make technological adaptations work for children and adults with disabilities.

OF TECHNOLOGY'S MANY APPLICATIONS, none is more promising or exciting than its potential to help people with disabilities overcome their special problems. For those who cannot speak, there are devices that will do it for them. For those who cannot see, there are "laser canes" to help lead the way. For those who cannot hear, there are "electronic ears" that can give to some the gift of hearing.

Computers, too, are increasingly accessible to persons with special needs. There are computers that can be operated by voice command, computer keyboards that can be activated by merely looking at them and printers that print in Braille. There are, in short, many remarkable assistive devices available to help children with disabilities learn more efficiently, communicate more effectively and live more independently.

THE GOOD NEWS AND THE BAD NEWS

As an information analyst specializing in technology for people with disabilities, I think it is fair to say that it is in many ways a good news/bad news story. The good news you have heard: technology can help people do things they would not normally be able to do. Unfortunately, the effective application of special technology is not the easiest thing in the world to accomplish. Let me briefly describe some of the challenges I see in putting technology to work for people with disabilities.

THE COST OF TECHNOLOGY

Special technology is not cheap. In fact, quite the opposite. A nifty gadget that looks as if it should cost a couple hundred dollars usually costs a couple thousand.

Thus, just buying a needed device can be a major problem. In all fairness, though, the manufacturers are not necessarily to blame. Large amounts of "resource and development" money are often invested in devices that are by and large niche (as opposed to mass) market products. Thus, such products are expensive to make since they are made in relatively small quantities, and even more expensive to buy. After all, these manufacturers are in business to serve the needs of people with disabilities and to make a profit — the latter being a fact many people overlook.

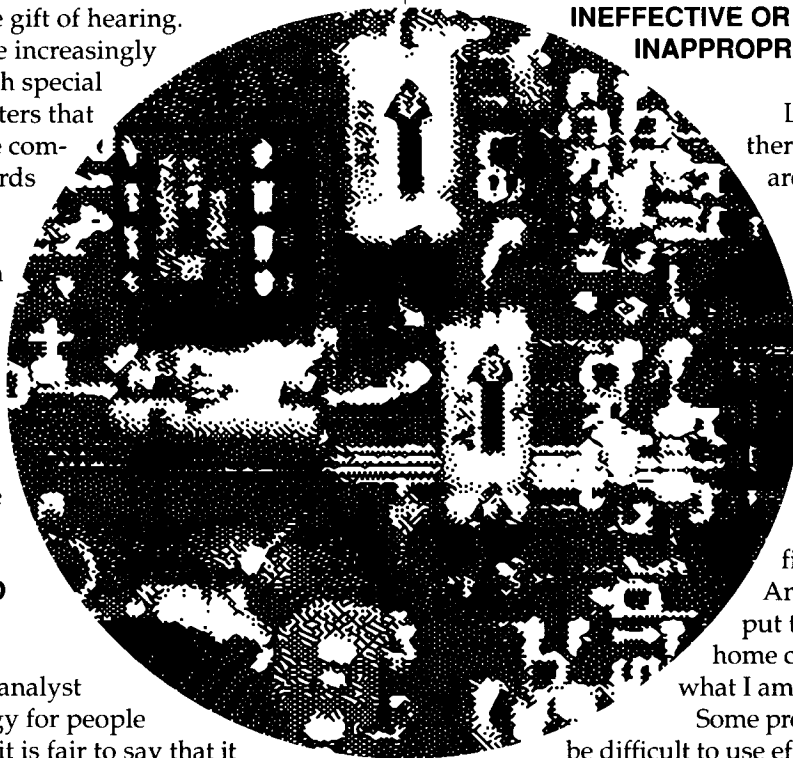
INEFFECTIVE OR INAPPROPRIATE PRODUCTS

Like all consumer products, there are good ones and there are bad ones.

The good ones are a joy to use and there are many on the market. But some products just do not perform as advertised or break down before they are broken in. Even the good ones are often a bit temperamental and will not always work the first time they are set up. Anyone who has tried to put together a new stereo or home computer system knows what I am talking about.

Some products (good ones, too) can be difficult to use effectively or will work well under one condition but not another. For example, a patient with amyotrophic lateral sclerosis may be provided with an environmental control system that is operated by a switch activated by gross arm movements. As the disease advances, however, the patient may no longer be able to make such movements and can therefore no longer operate the system. On the other hand, had the patient been outfitted with a "brow wrinkle" system instead, it is likely he or she would not have lost the ability to operate the equipment.

Moreover, these problems are not easily avoided. There is a dearth of well-trained technology specialists to assist in needs assessment and product selection, and



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there are precious few independent performance evaluations conducted on competing assistive devices. Computer stores, where parents may be inclined to seek help, are generally ill-equipped to provide such assistance. A potential buyer often has little more than a promotional brochure on which to base a purchase decision.

OVERDEPENDENCE ON TECHNOLOGY

Perhaps the most troublesome problem associated with the use of technology, in my view, is the common belief that somehow a simple piece of hardware will permit its user to totally overcome his or her disability. This is simply not true. A device can greatly enhance the person's natural abilities and may, in fact, open up whole new worlds that otherwise could not be explored. But using these new technologies can be almost as frustrating and difficult for the user with disabilities as their trying to do something without the technology.

For example, there are computerized word processing systems that can be activated by merely sipping

Acquiring and effectively using technology requires considerable forethought, training, old-fashioned hard work and a good bit of luck.

and puffing on a straw connected to a special switch. Such devices make it possible for immobile, non-vocal persons to communicate in ways that were not previously possible. Yet anyone who has tried to sip and puff their way through the 2000 characters of a short one-page letter knows how laborious and mentally demanding this process is. And for every other similar technological solution, there is a corresponding challenge to be overcome.

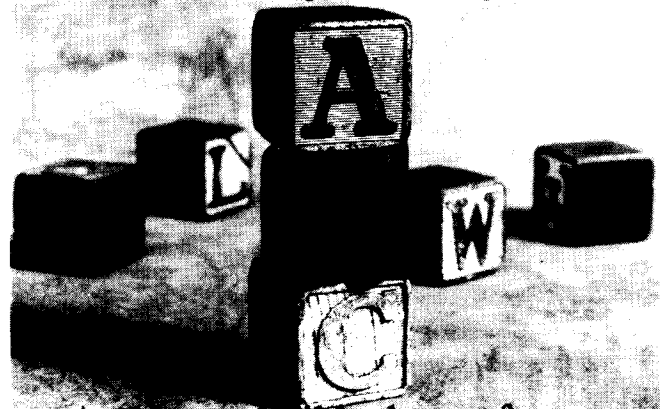
SOME THOUGHTS FOR THE FUTURE

By now, many of you may think that I do not necessarily endorse the use of technology — a view that would be curious for a staff member of a national information clearinghouse on special technology. Well, I do, and do so wholeheartedly. Having been a "techie" for many years, I have seen and used some of the incredible devices that are currently available and know well the joy that they can bring.

But I also know that technology is not magic. Acquiring and effectively using technology requires

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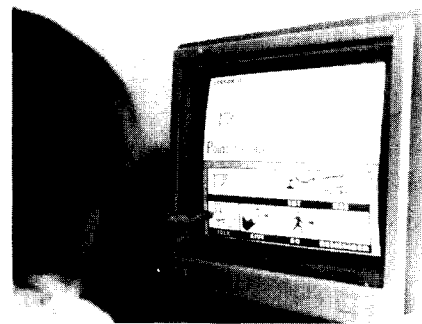
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considerable forethought, training, old-fashioned hard work and a good bit of luck. And let's not forget money or people! Nonetheless, I encourage parents, teachers, persons with disabilities, and others interested to investigate these technologies and to explore new ways in which they can be made more accessible and used more

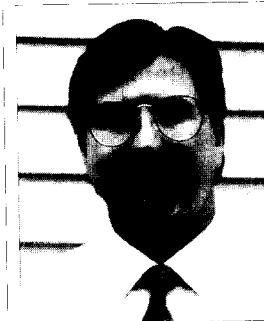
The use of technology must be put into proper perspective. One device, or even a plethora of devices, will not solve all of the problems.

effectively. I believe you will find that great things can be done. But I also believe that efforts to develop alternative funding mechanisms are needed.

Means for conducting and documenting independent comparative evaluations of commercially available products are required as well. There is a great need for consumers with disabilities and the advocacy groups that support them to be more involved in the product

development process. Increased opportunities for hands-on training must be provided.

Finally, and perhaps most important, the use of technology must be put into proper perspective. One device, or even a plethora of devices, will not solve all of the problems. Technology is just one tool among many that must be applied to any given situation. Many social, academic and independent living skills must still be taught through traditional means. Parent and child support networks still need to be built and maintained. Medical and financial assistance must still be obtained. Admittedly, these are not easy things to do, but they must be done if we are to unlock the human and intellectual potential of our nation's population with disabilities.



Jack Moore is president of the OPEN ACCESS Publishing Group, which offers print and computerized information resources in many areas, including special education and rehabilitation. Moore, a graduate of the University of Maryland, lives outside of Warrenton, Va., with his wife, Debby.

Products for the 90's!

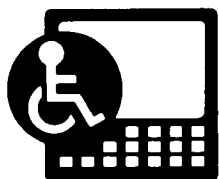
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Maxwell J. Schleifer, Editor in Chief.