

Assistive  
Technology  
Works!



# Family Information Guide to Assistive Technology



**Family Center  
on Technology  
and Disability**

[www.fctd.info](http://www.fctd.info)

## About the Family Center on Technology and Disability

The Family Center (FCTD) produces and distributes a range of informational resources on the subject of assistive technology. The Center's goal is to strengthen the ability of organizations throughout the country to provide current, accurate, and useful materials to the families of children with disabilities.

Among the resources provided by the Family Center are the following:

- A fully searchable database of more than 600 abstracts of books, articles, videos, websites, and other resources concerning assistive technology
- A fully searchable database of information on approximately 1,500 organizations nationwide, that serve the disability community
- Monthly thematic newsletters on AT topics, featuring in-depth interviews with nationally-recognized experts
- Month-long online discussions of AT topics, moderated by national experts
- An annual Online Summer Institute on Assistive Technology, for which participants may receive continuing education units
- Two *Assistive Technology Resources* CD-ROMs produced annually
- A fully accessible website that provides the resources above plus an AT glossary, an introductory AT primer, AT success stories, an explanation of relevant legislation, and links to other relevant material

The Family Center is administered by the Academy for Educational Development in partnership with the Parent Advocacy Coalition for Educational Rights, the Alliance for Technology Access, InfoUse, and the Center for Assistive Technology and Environmental Access. The Family Center is funded by the U.S. Department of Education's Office of Special Education Programs (OSEP).

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InfoUse





# Family Information Guide to Assistive Technology



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# How to Use this Guide

The FCTD Family Guide to Assistive Technology includes the following sections:

- ▶ The Possibilities of Assistive Technology (AT)
- ▶ Assistive Technology in Schools
- ▶ Funding AT
- ▶ Quick Questions and Tips
- ▶ Glossary of AT Terms and Definitions
- ▶ Additional AT Information Resources

We have included many website addresses in the guide. To keep you from having to search within an organization's website for a particular piece of information, we've included the URL (the address) that will take you to the precise page within the website. That means that the URL may seem very long. Please don't let that stop you. On our website, the addresses are "hot links" so that you merely have to click on them. In the paper version, of course, that's not possible. To access the reference, type the URL into the address window of your Internet browser. Or visit our website at <http://www.fctd.info> and use the online Family Information Guide.

The information in the guide is accurate and current as of February 2005. You may copy and distribute portions of the guide without prior consent. Of course, we would appreciate it if you would give appropriate attribution to the Family Center on Technology and Disability. Products that are identified in the guide are meant only as examples. The Family Center and the U.S. Department of Education do not endorse specific products. There are many other fine AT devices available in addition to those pictured or discussed here.

The Family Center is always trying to improve the quality of the AT information materials that we produce. You can help us better serve you by completing the short and easy evaluation form that can be found on our website. We would be happy to mail a printed evaluation form to you if you prefer.

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## Section 1:

# The Possibilities of Assistive Technology

# The Possibilities of Assistive Technology

More than ever before, technology makes it possible for children with disabilities to lead independent and fulfilling lives.

For example, a young girl who is unable to speak can communicate with family and friends using a portable electronic device that “speaks” for her; a boy with a physical disability can use his electric wheelchair to participate in sports; and a young adult with a learning disability can compose a school report with the help of a computer.

Parents may have seen or heard about this type of technology and wondered how it might help their children. This equipment is frequently called “assistive technology.” Assistive technology (AT) helps a person with a disability do something s/he otherwise cannot to do. Assistive technology can be anything from a simple device, such as a magnifying glass, to a complex device, such as a computerized communication system.

The term “assistive technology” comes from several laws that address the needs of people with disabilities. Assistive technology includes both the devices and the services needed to use the devices effectively. AT services might include assessing a child’s need for AT and the training the child and his teacher, aide, and family to use the AT.

## How Can Assistive Technology Help My Child?

The potential of technology to help children with disabilities is tremendous. Assistive technology can help children be more self-sufficient at home and in school, communicate with friends and family, get out into the community, and as they grow older, find employment. The story on page 4 illustrates how assistive technology can play a key role in the life of a child with a disability.



# How Do I Determine What Type of Technology My Child Needs?

The process of choosing assistive technology for your child usually starts with an evaluation of your child's AT needs. The evaluation can be conducted by the school, an independent agency, or an individual consultant. Because the scope of assistive technology is so large, the evaluation will most likely have a focus. For example, an AT evaluation conducted by the school is directly related to achieving educational goals and outcomes.

Every AT evaluation should address what the child is having difficulty doing. For example, if a child is having difficulty with mobility, the evaluation would focus on technology to assist with that, such as a wheelchair or scooter.

During the evaluation it is important to talk about your child's strengths in addition to his challenges. For example: "What does he do well?" "What does he enjoy doing?" This type of input will provide clues as to what type of technology might work, and how well your child will respond to it.



It is also important to consider the different environments in which your child interacts with others – at home, school, and in the community. Think about how your child's needs for assistive technology might be different on the playground, the classroom, at a friend's house, or at a public place, such as a library or mall.

An AT evaluation will result in a recommendation for specific devices and services, including any modifications to the child's environments. Long-term success with AT involves an ongoing look at need, equipment trial and evaluation followed by maintenance and growing expertise by the user, family, and professionals. It is important to remember that AT needs usually change with time, circumstances, and goals.



## Meet Freddie...

Freddie is a 21-year-old young adult with spina bifida and multiple health impairments. Since he was a small child, Freddie's disabilities have severely limited his functional abilities, particularly his mobility and speech. Because of Freddie's many needs, he has relied heavily on different types of assistive technology throughout his life. His mother, Deborah, says that without AT he would not be able to live at home, attend school, go out in the community, or be employed.

### **Technology for Communication**

Freddie was assessed for a communication device when he was in kindergarten because his speech was difficult to understand. Since then, he has used many different communication tools, and he currently uses a computerized communication device that helps him talk with others in different situations.

### **Technology for Mobility**

Since Freddie was 2 years old he has used a wheelchair to get around at home and at school. In first grade he began to use a power wheelchair that he controlled with a joystick. The power wheelchair gave him greater freedom and now he uses it to travel throughout the community independently.

### **Technology for Education**

Freddie also has limited use of his arms, so he cannot hold a book to read, or a pencil to write. Because of these limitations, he has used books on tape and talking computer books to help him learn to read and write. He has also used the computer to type his writing assignments for school.

### **Technology for Work**

As a young adult, Freddie has found computer-related employment, using a computer with adaptive devices such as a trackball mouse and special software for typing.

### **Technology for Social and Leisure Activities**

For social interaction, Freddie has been able to use e-mail and the Internet to stay connected with friends and family and to keep up with current events. He also uses the computer for recreational activities, such as listening to CDs or watching videos. Freddie's mother feels that the computer has been "the most important piece of assistive technology" in his life because it provides a vital connection with the rest of the world.

Not every child will need as much assistive technology as Freddie uses, but AT can help many children with different needs realize their potential. Assistive technology can include adapted toys, handheld dictionaries, computers, powered mobility, augmentative communication devices, special switches, and thousands of commercially available or adapted tools to assist an individual with daily living activities.

# Learning About Assistive Technology

Parents can help to identify potential AT for their children if they learn more about the choices that are available. Speech-language therapists, occupational therapists and school professionals are often a good starting point. You may not be aware, however, of the many other organizations that provide AT information and training, such as parent training and information centers (PTIs), community technology centers, state assistive technology programs, and rehabilitation centers. The Family Center on Technology and Disability (FCTD) is funded by the U.S. Department of Education to make available a wide range of AT resources to people and organizations that work with families. Families are always welcome to visit the FCTD's website at [www.fctd.info](http://www.fctd.info) to find organizations to work with and to learn more about assistive technology. See the Resource Section of this guide for more information about locating such centers and programs.

If possible, you should visit an assistive technology center with your child to see and try out various devices and equipment. Some AT centers offer a lending program that enables families to borrow devices for a trial period. Parents can seek out AT workshops, trainings, and conferences and there are many opportunities to learn about AT on the Internet as well.

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## The Family Center on Technology and Disability

# Assistive Technology Works!

- About FCTD
- AT Resources
- AT Organizations
- Monthly Newsletters
- Online Discussions
- AT Success Stories
- AT Terms and Laws
- Links to Useful Sites

### Monthly Features:

- The discussions and resources produced during our 2004 Summer Institute on Assistive Technology are now available on CD-ROM. [Request a free copy here.](#)
- Our December newsletter - [Sunrise, No Sunset - The New Assistive Technology Act](#) is now available. In this issue, Deborah Buck, Executive Director of the Association of Assistive Technology Act Programs, explains the implications of the new law.
- Join our January discussion of "Family and Cultural Issues in the Delivery of AT Services" led by national expert **Dr. Phil Parette** and very knowledgeable parent, **Tom Nurse**. You can sign in as yourself or as a guest; there is no password required. We look forward to a great discussion!

★ [Join the FCTD Network! Sign up here to become a member.](#)

★ [Meet Alan Brint and learn about his successful use of assistive technology.](#)

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## Meet Trey...

Trey, now 8-years-old, was born with Down syndrome and numerous other health problems. He hasn't talked since he was born. Because Trey was unable to communicate his needs and wants he often became very frustrated and then acted out by yelling and throwing things. When Trey was 3 years old, his parents decided to have him evaluated by a communication specialist in their school district. The evaluation determined that Trey could benefit from having a communication device to help him express his needs and communicate with others, but she suggested a trial with a couple devices to find out which worked best for Trey and his family.

Lisa and Stephen, Trey's parents, were unfamiliar with communication technology, but the school specialist helped them learn about the different devices that they would try with Trey at home and at school. For several weeks the family tried a simple voice output device with six messages, which led the parents and the specialist to realize Trey's vocabulary would very quickly outgrow that particular device. In the end, they decided on a 32-message device with multiple recording levels. This product, called "Tech Speak," became Trey's first communication device. Soon Trey was able to activate buttons to form simple requests, such as "I want crackers."

"Finding the right technology for Trey is an ongoing process and not always easy. I encourage parents to try out different devices with their child at home and school before settling on one device. It's been invaluable for me to link up with a parent advocacy organization and support groups to learn about the technology available, but more importantly to learn advocacy skills that have helped me get the technology Trey needs."

-- Lisa, Trey's mother



The following pages describe a number of common assistive technology options in different goal areas. This is only a brainstorming list and is not intended to be comprehensive. Check the "Glossary" for any words and terms that are not familiar to you.

## Aids for Daily Living

### ► Eating

- \_\_\_ Adapted utensils/plates
- \_\_\_ Arm support
- \_\_\_ Automated feeding

### ► Dressing

- \_\_\_ Velcro fasteners
- \_\_\_ Button hook
- \_\_\_ Dressing aids

### ► Recreation & Leisure

- \_\_\_ Adapted toys and games (e.g., puzzles with handles)
- \_\_\_ Battery interrupters and switches
- \_\_\_ Adapted sporting equipment (e.g., Velcro mitt, lighted or beeper ball)
- \_\_\_ Universal cuff to hold crayons, markers, paint brush
- \_\_\_ Modified utensils (e.g., rollers, stampers, scissors)
- \_\_\_ Articulated forearm support (e.g., ErgoRest)
- \_\_\_ Drawing/graphics computer programs
- \_\_\_ Music or games on the computer

### ► Home Living

- \_\_\_ Switch
- \_\_\_ Battery interrupter
- \_\_\_ Control unit
- \_\_\_ infrared sender / receiver
- \_\_\_ X-10 unit and peripherals

## Studying/Reading/Math

### ► Learning /Studying

- \_\_\_ Print or picture schedule
- \_\_\_ Low tech aids to find materials (e.g., color tabs, colored paper or folders)
- \_\_\_ Highlight text (e.g., markers, highlight tape, ruler)
- \_\_\_ Voice output reminders for tasks, assignments, steps to tasks
- \_\_\_ Software for manipulation of objects/concept development (e.g., Blocks in Motion, Thinking Things)- may use alternate input device such as Touch Window
- \_\_\_ Software for organization of ideas and studying (e.g., PowerPoint, Inspiration, ClarisWorks Outline)

### ► Reading

- \_\_\_ Changes in text size/space/color/background color
- \_\_\_ Book adapted for page turning (e.g. with page fluffers, 3-ring binder and folders)
- \_\_\_ Use of pictures with text (e.g., Picture It, PixWriter)
- \_\_\_ Talking electronic devices for single words (e.g., Reading pen, Franklin Bookman)
- \_\_\_ Scanner with OCR and talking word processor
- \_\_\_ Electronic Books (e.g., Start to Finish)

### ► Math

- \_\_\_ Abacus, math line
- \_\_\_ Calculator/calculator with print out
- \_\_\_ Talking calculator
- \_\_\_ Calculator with large keys, large display
- \_\_\_ On-screen calculator
- \_\_\_ Software with cueing for math computations
- \_\_\_ Tactile/voice output measuring devices (e.g. clock, ruler)

### ► Alternate Computer Access

- \_\_\_ Keyboard with easy access or accessibility options
- \_\_\_ Word prediction, word completion, macros, abbreviation expansion to reduce keystrokes
- \_\_\_ Keyguard
- \_\_\_ Alternate mouse  
(e.g., *TouchWindow, trackball, trackpad, mouse pen*)
- \_\_\_ Mouse alternative with on-screen keyboard
- \_\_\_ Alternate keyboard  
(e.g., *Intellikeys, Discover Board, Tash*)
- \_\_\_ Mouth stick, head pointer with keyboard
- \_\_\_ Switch with Morse code
- \_\_\_ Switch with scanning
- \_\_\_ Voice recognition software and hardware

## Composing Written Material

- \_\_\_ Word cards, word book, word wall
- \_\_\_ Pocket dictionary, thesaurus
- \_\_\_ Electronic dictionary/ spell check  
(e.g., *Franklin Spelling Ace*)
- \_\_\_ Word processor with word prediction  
(e.g., *Co:Writer or Word Q*) to facilitate spelling and sentence construction)
- \_\_\_ Multimedia software for production of ideas  
(e.g., *PowerPoint, Overlay Maker w/ talking word processor*)
- \_\_\_ Voice recognition software

### ► Mechanics of Writing

- \_\_\_ Pencil/pen with adapted grip
- \_\_\_ Adapted paper  
(e.g., *raised lines, highlighted lines*)
- \_\_\_ Slantboard
- \_\_\_ Typewriter
- \_\_\_ Portable word processor
- \_\_\_ Computer

## Communication

- \_\_\_ Communication book / board
- \_\_\_ Eye gaze board
- \_\_\_ Simple voice output product  
(e.g., *Big Mack, CheapTalk, Talking Picture Frame*)
- \_\_\_ Voice output device with levels  
(e.g., *Macaw, CheapTalk with Levels, Dynavox*)
- \_\_\_ Voice output with icon sequencing  
(e.g., *AlphaTalker, Vanguard, Liberator*)
- \_\_\_ Voice output with dynamic display  
(e.g., *Dynavox, laptop with Speaking Dynamically*)
- \_\_\_ Device with speech output for typing  
(e.g., *LinkPLUS, Write:Out Loud with laptop*)

## Transition

### ► Work/School to Work

- \_\_\_ Scheduling aids (*calendars, reminders, task analysis*)
- \_\_\_ Switch/device
- \_\_\_ Adapted keyboard
- \_\_\_ Communication aid
- \_\_\_ Keyboard emulator

### ► Adaptations

- \_\_\_ Adaptive seating/positioning
- \_\_\_ Electronic communication
- \_\_\_ Electronic organizers
- \_\_\_ Adapted computer input
- \_\_\_ Environmental control units